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ARCHAEOLOGY

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MARCH, 1951

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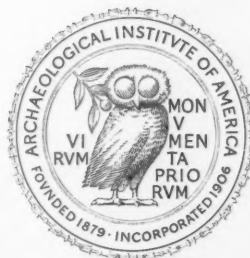
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Letters to the Editor	2
Primitive Wooden Masks from Key Marco, Florida, by J. ALDEN MASON	4
Did El Greco Need Glasses? by ARTHUR STANLEY RIGGS ..	6
A Coptic Monastery near Thebes, by CHARLES BACHATLY ..	13
Wooden Idols from Peru, by RICHARD P. SCHAEDEL	16
Cumin and Vinegar for Hiccups, by GEORGE C. MILES	23
The Inter-Agency Archaeological Salvage Program in the United States, by FREDERICK JOHNSON	25
Ancient Gardens in Greece and Italy, by DOROTHY BURR THOMPSON	41
The Epitaph of Marcianus, by ARTHUR E. GORDON	48
"Modern" Drawing on Greek Vases, by DOROTHY KENT HILL	50
Geological Table, by EUGENE S. RICHARDSON	53
The Newport Tower: A Reply to Mr. Pohl, by WILLIAM S. GODFREY, JR.	54
Archaeological News	56
Brief Notices of Recent Books	60
New Books	64

ARCHAEOLOGY is indexed in the ART INDEX



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LETTERS TO THE EDITOR

New York, New York

The Editor of *ARCHAEOLOGY*,

Sir,

It is with mixed emotions and genuine astonishment that some of the readers of ARCHAEOLOGY have perused a book review, disguised as an Editorial and given undue prominence in a recent issue of this excellent periodical. To some of us, at least, it would appear to be a betrayal of the principles of the ARCHAEOLOGICAL INSTITUTE OF AMERICA, founded to promote the advancement and diffusion of knowledge of the artistic creations of man's genius in the past. This purpose implies the display of a certain amount of respect for such creations, and the taking of steps toward their protection and preservation, rather than the countenancing of wanton destruction. War, of course, is synonymous with destruction, not only of human life, but also of public and private property; yet a commanding officer, while giving priority to military necessity, must always assume responsibility for the protection both of the lives of his own men and of the cultural monuments which are the heritage of all mankind. The balancing of these considerations may lead to regrettable decisions, and archaeological and artistic monuments, museums and libraries, may suffer in the process. Yet wanton destruction, whether from vandalism or indifference, cannot be condoned. Most of us have execrated the blowing up of the Parthenon in 1687, when even the Turks, as yet uninterested in such matters, believed that the enlightened Christians would respect it. The Editorial in question implies that our judgment is wrong, and that any untutored American lieutenant had a perfect right to demolish a historic French chateau in order to obtain rubble for an airfield. President ROOSEVELT and General EISENHOWER thought otherwise, and strove to protect the name of the United States of America from execration by the nations of occupied Europe. As General EISENHOWER stated in a general order: "Nothing can stand against the argument of military necessity. That is an accepted principle. But the phrase 'military necessity' is sometimes used where it would be more truthful to speak of military convenience or even of personal convenience. I do not want it to cloak slackness or indifference. . . . The prevention of looting, wanton damage and sacrilege of buildings is a command responsibility."

WILLIAM B. DINSMOOR

Honorary President of the ARCHAEOLOGICAL INSTITUTE OF AMERICA

January 28, 1951

Nursling, Southampton

The Editor of *ARCHAEOLOGY*,

Sir,

How gratifying it was to read Mr. Shinnie's plea for field archaeology minus excavation, and then overleaf your own stern question addressed to the author of a "study in archaeology"! Sybaris and the Sudan might provide the text for several sermons about archaeology—what it is and what it is not. One might say that it has little to do with books and much to do with dirty boots. Excavation is of course of fundamental importance, but there is so much else besides to be done,

so much that needs doing most urgently, and that is so much easier to do. Field archaeology without digging constitutes the time-exploration of a region, whose space-exploration may (or may not) have been already completed. There are castles, churches, monasteries, forts and even towns to be discovered, photographed and (if possible) planned. There are sites of early occupation to be discovered by mounds and debris of sherds and flints. There are Roman roads to be traced and mapped (with their accompanying forts and other habitation-sites). There are places named by early travelers but now perhaps abandoned or not named on the maps, but to be found by merely asking the nearest inhabitant. All so easy, so pleasant, and yet at times so arduous and exacting!

This field archaeology is no matter of vast organisation, elaborate and expensive equipment or large staffs. It is best done alone and on foot, or on a bicycle, donkey, or camel according to the climate. You may need a cook and an interpreter; you must have the equal temper of the traveller in time, to whom time means nothing. You cannot hustle field archaeology, especially in the east, and if you do not actually 'go native,' one should at least occasionally consider the possibility while always rejecting it. And you must be as interested in existing people and their ways as in their ancestors. Thus equipped the field archaeologist whose eyes have been opened realizes that, apart from political obstacles, the whole world lies before him as a virgin field. Large areas are of course now barred; but he still has left to him the whole of Southern Europe and the Mediterranean lands, Africa, and most of India and beyond. Here are a few suggestions. Visit and describe the Cassiterides, those unknown islets off the N.W. coast of Spain; identify the site of Sybaris; explore the Sudanese Nile Valley, but please leave a bit for the undersigned who hopes to go do it himself if he can find the money.

Yours faithfully,

O. G. S. CRAWFORD

Jan. 5th, 1951

MR. CRAWFORD is the distinguished British prehistorian and editor of *Antiquity*. The references in his first sentence are to two communications which appeared in our Autumn, 1950, number (Volume 3, No. 3), pages 185 and 187.—Ed.

Comes a Revolution

On our desk are a number of blue paper-backed books, printed in inexpensive form on cheap paper, which promise to reverse the long process by which the public has been excluded from archaeology by the cost of its books. These are Pelicans; others are in the Penguin series. They cost 35¢, or, if they are especially thick, they are considered double volumes and priced at 65¢. They include a number of books which should be on the shelf of every archaeologist, professional and amateur alike, and of every aficionado of ancient history or ancient studies in general. Here are CHRISTOPHER and JACQUETTA HAWKES, *Prehistoric Britain*; S. E. WINBOLT, *Britain Under the Romans*; STUART PIGGOTT, *Prehistoric India*; I. E. S. EDWARDS, *The Pyramids of Egypt*; W. F. ALBRIGHT, *The Archaeology of Palestine*; two books by SIR LEONARD WOOLLEY on Ur; V. GORDON CHILDE'S *What Happened in History*; BENJAMIN FARRINGTON'S *Greek Science*, in two parts; A. C. BOUQUET'S *Comparative Religion*; volumes on geology, palaeontology, and geography; the *Iliad* and the *Odyssey*; and many more. VAILLANT'S *The Aztecs of Mexico* is to be re-published and the morning mail brings word that Associate Editor J. ALDEN MASON is doing one on the Andean civilizations.



PRIMITIVE WOODEN MASKS

FROM

KEY MARCO, FLORIDA

By J. Alden Mason

Photographs by Reuben Goldberg

OBJECTS OF WOOD AND OF OTHER SOFT ORGANIC substances are rarely preserved in archaeological sites. Strange to say, two opposite extremes favor their preservation: constant aridity or permanent saturation. The former is found in such places as Egypt, the coast of Peru, and dry caves almost anywhere; good examples of the latter are the Swiss lake dwellings and the Iron Age site at Biscupin, Poland, which was described by HORACE G. RICHARDS in the Autumn, 1950, number of *ARCHAEOLOGY* (Volume 3, No. 3, pages 170-174).

In America almost no sites of this nature have been discovered and excavated. The best known was found long ago in Florida. It produced over a thousand objects, most of them of wood, others of cordage, shell, bone, and horn; by the nature of the country, none was of stone. The location and nature of the finds are most fortunate because, except for this, our knowledge of the handicraft of the prehistoric peoples of the eastern United States is practically limited to that in stone and pottery. Furthermore, the Florida material was replete with artistic objects of ceremonial charac-

ter, almost the only ones known from the eastern United States, and absolutely unique.

Strange to say, in spite of the uniqueness and great importance of this work and material, only one old preliminary report has ever been published on it.* Several prominent American archaeologists have intended and still hope to prepare a full report, but to my knowledge no progress has been made to date.

Key Marco is a tiny island just off the Gulf coast, in Collier County in the far southwestern part of Florida, about half way between Everglades and Naples. The first finds were made there in 1895 by a local resident, and in the winter of 1896-1897 FRANK HAMILTON CUSHING made excavations there for a joint expedition of the Department of Archaeology and Paleontology of the University of Pennsylvania and the Bureau of American Ethnology in Washington. The objects were divided and now repose either in the University Museum or in the National Museum.

Many of the countless islands in that region were the sites of ancient habitations. Penetrating the dense

mangrove thickets on the shore, one finds embankments or walls of conch shells piled up in a uniform fashion and surrounding flat enclosures. One of those on Key Marco was called by CUSHING the 'Court of the Pile Dwellers.' This was carefully excavated. He reports that it was almost continually under water, so that excavation had to be done by banking up a section and baling the water out. Fingers were the principal digging tools.

Despite the great heat and the quantities of mosquitoes and other insects, CUSHING reports "... never in all my life, despite the sufferings this labor involved, was I so fascinated with or interested in anything so much as in the finds thus daily revealed."

In those early days of industrial chemistry, substances and techniques for the preservation of waterlogged wooden objects were not available, and most of them began to warp at once, though a few have held their shapes very well through the years. "Not more than one-half retained their original forms for more than a few days," reports CUSHING. However, most of the specimens—and all the outstanding ones—were photographed, and sometimes paintings and casts were made of them, while they were still in perfect condition.

Among the objects found were two spearthrowers, the only ones known, I think, from the eastern United States. The most interesting and artistic group of objects, however, were the masks and maskettes, both human and animal. All were painted, not roughly, but with the natural features daintily indicated with several soft colors. The human masks, being relatively thin and concave, have now warped almost beyond recognition; but the heavier animal masks are better preserved, some of them almost perfectly.

Two are outstanding: They portray wolf and deer, both with large movable wooden ears. The deer head, illustrated on the opposite page, is a lovely naturalistic work of art, delicately painted. The eyes were of tortoise shell, now, unfortunately, disconnected—not lost, we hope. Not counting the ears, the deer mask is seven and one-half inches in length. The wolf head, illustrated above, has wide open jaws, fangs that would strain the credulity of a Walt Disney fan, and prominent if somewhat unconvincing dewlaps. The tongue, a separate carving, is lacking. These masks are reproduced again on the front cover of this issue.

The woodcarvers, the inhabitants of Key Marco,



were probably a group of Calusa Indians who occupied this region in early historic times. Nothing is known of their language or of their pre-contact history. They were non-agricultural, but good fishermen and seamen, living on the fish, shellfish, and other marine life that was prolific in that region. The ease with which they got their subsistence gave them free time for the development of carving and other arts, which they did mainly with the help of shark teeth. They were such valiant warriors that, after they drove off PONCE DE LEON in 1513, the Spanish left them alone, and they seem to have continued their life unconquered until about 1750.

The finds at Key Marco probably date from a relatively late period, possibly about 1500; the apparent lack of any European objects among those found would indicate that it could not have been much later.

*For the one report which has been published see FRANK HAMILTON CUSHING, 'The Pepper-Hearst Expedition. A preliminary report on the exploration of ancient key-dweller remains on the Gulf Coast of Florida,' *Proceedings of the American Philosophical Society*, 35 (1897) 1-120 and plates 25-35.

DID EL GRECO NEED GLASSES?

By Arthur Stanley Riggs

After serving in the Spanish War, Arthur Stanley Riggs edited daily newspapers in the Philippines. In 1904 he came to New York and began writing about art and architecture. From 1925 to 1935 he was director and secretary of the Archaeological Society of Washington (predecessor of the present chapter of the Institute) and editor of ART AND ARCHAEOLOGY. He served in both world wars and in 1945 he retired from the U. S. Naval Reserve (Intelligence) with the rank of Commander. His book on Titian appeared in 1946, his book on Velazquez in 1947. He is an authority on interoceanic canals, and he is finishing an exhaustive three-year study of Sir Francis Drake. He has taken a lively, witty, and purposeful interest in ARCHAEOLOGY, and every page owes something to his experience, his counsel, and his good cheer.

MUCH MORE NONSENSE THAN LEGITIMATE estimate and criticism has been written about Domenikos Theotokopoulos, Krees (the Cretan), that temperamental Greek who became more Spanish than the Spaniards, and gloried in his nickname of *El Greco*: The Greek. A great deal of the nonsense emanated from men—among them noted physicians and oculists—who should have known better. In almost every case of what has pretended to be sober consideration of the painter's alleged astigmatism as accounting for his remarkable canvases, it must be noted that the analysts overlooked conspicuously or were shockingly ignorant of two vital things: the human factor in the artist himself and the psychological backgrounds involved.

That El Greco may have suffered from a minor form of astigmatism is physiologically quite possible, yet the most elaborate and detailed studies have failed to adduce the slightest proof of it. It is true certainly that as he grew older he had to work under the handicap common to every human being of presbyopia—changes, effective mainly in the accommodative and resolving power, of the eye, in most cases due mostly to advancing years. But that the amazing character of El Greco's drawing and the expressions he chose to give all his principal figures were due to astigmatism or any

other ocular deficiency is the over-cerebration of imagination which lacked the aesthetic and cultural scholarship to reason correctly. El Greco's peculiarities, so graphically rendered in astonishing color on canvas, resided in the man's spirit, not in his eyes. He emphatically did not require "corrective" lenses to drag him down to the moribund normalcy of his period. I am no

partisan of this *charactère fantasque*, but in simple justice the man must be given his meed of acknowledgment for what he did, and for the tremendous influence he was to exert in centuries to come.

Domenikos Theotokopoulos was born in Fodele, a mountain village of Crete not far from Candia (Herakleion), in or about the year 1545-6. The exact date can never be given because the Turks de-

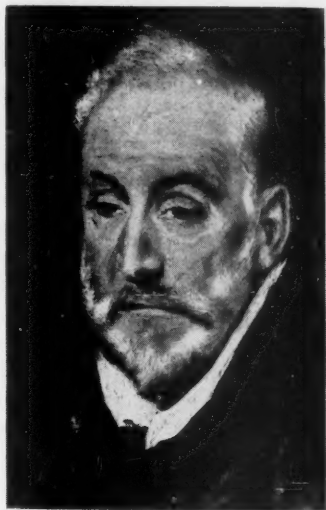
stroyed all the birth registers. Son of an undistinguished family, the boy's mind was formed first by the smoldering spirit of rebellion against the Turkish authorities who controlled the island, all Muslim. He breathed the keen, clear air of liberty and personal independence among the peaks and vales of his native region to such an extent that when his formal education began he was eager and ready to seize upon anything leading away from Turkish—or any other—authoritarianism.

He commenced more or less ordered studies under the Byzantine monks of the Monastery of San Pan-



El Greco. Three typical heads. Detail from the Burial of the Count of Orgaz.

El Greco. Portrait of the architect Don Antonio de Covarrubias (El Greco Museum, Toledo). This is a typical example of the painter's mixture of remarkable skill as portraitist and remarkable asymmetry of design.



taleimon at Fodele. There he steeped himself in the intricate traditions of Byzantine theology and art in extension of his more material courses. There, too, because the kindly monks amazingly developed his clear natural gifts as a painter, he became the victim of the arrogant egotism that drove him out of Italy into Spain, raised him to eminence, found its fullest expression in grim Toledo, made him a tradition while still alive, and finally drove him into his grave a bankrupt to be completely forgotten for more than two centuries.

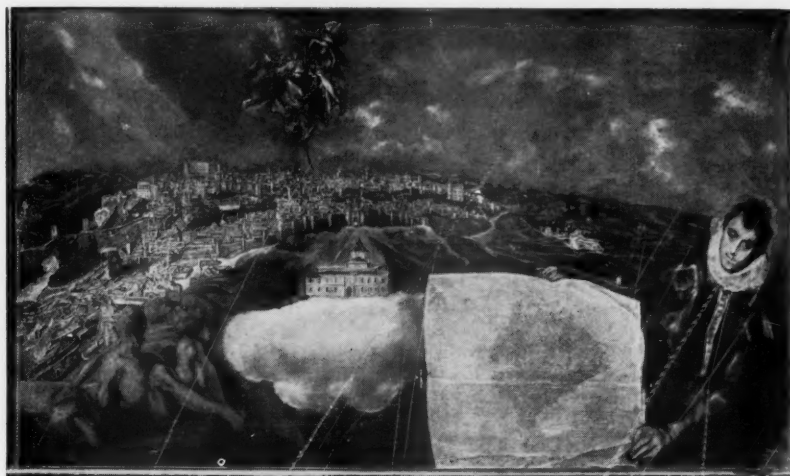
No serious student of art possessed of even a moderately comprehensive knowledge of the development of painting can look understandingly, and with full critical evaluation, at El Greco's painting without realizing immediately that he is faced by an equation of at

least one unknown quantity. To resolve the problem he has to discard the theory entirely and wade patiently back through a morass of seldom apparent factors which ultimately solidify into the key to the riddle. The clear genius of the painter is immediately admitted. The unknown quantity is its causation. What molded the ebullient spirit, gave it creative power of the first order, and motivated that genius, once established?

Before considering the peculiarities of El Greco's style in the paintings best known today, we must base firmly upon the painter himself. In San Pantaleimon Monastery the immature lad was confronted by the rigid ideology of the monks. The doctrines and traditions of Byzantinism had been crystallizing for centuries; learning in them meant not questing or argument but acceptance. This was as true of art as of theology, and the boy's plastic mentality gradually hardened under such influences, which it retained with but few changes until death.

When the dry cenobites had taught the boy all they could, they sent him in to Candia, where he painted in the church of Saint Catherine, and further indurated his soul there. By the time he reached Venice, his natural goal, he was a fairly matured painter. In the Most Serene Republic of the lagoons he found the natural colors that intrigued his artist's soul, and in various churches, collections and galleries enough of the Byzantine to make him feel completely at home. Legend has it that he was for a time a pupil of that incomparable master Titian. From him and the marvelously colored scenes all about, he learned the secrets of color he later so often shamelessly abused.

El Greco. Toledo never looked to lay eyes as El Greco saw it in this wry likeness, still in the Museum in Toledo, or in its companion piece in the Metropolitan Museum in New York. Both canvases are characteristic of the painter's attempt to infuse an attempted "spirituality" into his work. The color in both is highly disturbing if not morbid.



SUDDENLY WE FIND him in Rome, intimate with Giulio Clovio, and through him patronized generously by Cardinal Farnese. Here for the first recorded time, the young man's warped and fiery nature displayed itself. Called by the Pope to complete a part of one of Michael Angelo's paintings, the Cretan remarked that he would not bother. He would erase the entire painting and do a much "more decent and noble painting, equal in both quality and technique." Pope, Cardinal, friends and the whole artistic fraternity of Rome turned upon him as a pretender, and he fled to Spain. For something like forty years thereafter he lived in the Peninsula, developed his weird nature and his art there simultaneously, and produced such strange pictures that all manner of astonishing stories grew up to account for his technique. One of them was the fable that he was so astigmatic of vision that he could not observe correctly, and as a consequence painted figures distorted, elongated, curved and at times ridiculous because his eyes made such malversations seem to him entirely natural.

Nothing could be farther from reality. This is not history, so we are concerned only with the causes of his temperament and the reasons for the belief, so ardently held by many, that he needed glasses to bring his vision into line with reality. We have already seen the formative influences, in part, that molded his boy's spirit. The hard traditionalism already mentioned as a part of Byzantinism ground itself into his inmost fibre

El Greco. The Crucifixion, a characteristic example of distorted drawing and forced emphasis, which bears out Legendre's remark that El Greco "felt such interior impulses that he sought to cross the threshold" of mysticism; "and it is there that the majority of mortals can no longer follow him."



El Greco. Head of the young Deacon. Detail from the Burial of Count Orgaz. Here the artist discloses his extraordinary ability as a draughtsman and master of color.

to such an extent that to the end of his days he was unable, except in a few works that displayed the Venetian type of realism, to escape from it entirely.

El Greco, as the great Spanish critic GÓMEZ MORENO once pointed out, is an infuriating subject. "It is late," he remarked, "to consider whether El Greco is adorable or abominable: he is simply fascinating." There never was a truer description in brief, but it is that very fascination which makes a truly objective view, of the man who for half a century has had the world by the ears, almost as impossible as himself. At times some of his more reasonable critics admit under pressure that he saw with the eye of a Byzantine primitive. While this is true to a large extent, his warped mind forced his hand to fix on his canvases a strangely modified or compounded vision, neither wholly Byzantine nor current Spanish, but astonishingly prophetic of the modern art which lay three centuries ahead of him.

El Greco was forgotten and ignored for centuries after his death for the very simple reason that no one during his life or after he died comprehended what the man was trying to do. He was never in any real danger of being ultimately forgotten, but his very greatness subjected him during life and for years after it to being completely misunderstood. His grounding in the Byzantine tradition was modified by his experience in Venice and Rome, which broadened his viewpoint greatly, and his life in grim, ascetic Toledo, again modified by the intensity, the fanaticism of Spanish dogma-



tism, completed his education. Given a highly neurotic nature in the first place, and such a life, and we begin to approach the reasons for the character of his work. The matter, however, goes deeper than these superficial manifestations.

Any serious consideration of Byzantine ikons and the painting of that school in general reveals one striking fact. Essentially the work of all Byzantines was miniature painting, regardless of its size. Each painting was meant to be a jewel, glowing in or against its setting: primitive in drawing, harsh in color yet brilliant, of innumerable facets and details yet in essence very simple and forthright, it fulfilled its artistic purpose. The unyielding traditions of its theology prescribed the form, the nature of the depiction, at times even the colors to be used. Theotokopoulos mastered all that, including the anatomical deficiencies of the draftsmanship. There was not a trace of the

smooth fluency of Muslim decorative art about it. Venice furthered the painter's comprehension of the nuances of color, but here again all the beauties of nature could not eradicate the harshness of his early schooling. Venice did give him better composition, a wider sweep of comprehension in anatomy and movement, but not enough to change his thinking. Rome had little for him, and he was not there long enough—only about eighteen months—to unlearn much.

Toledo, when he finally reached it, proved exactly the spiritual climate and material surroundings his spirit craved. His real work begins from the moment he began to absorb what seems to me the physical embodiment of the soul of Spain at that period: Gothic, Arab, Iberian, fanatically religious, cast in the iron mould of a desiccated tradition of the Golden Age, arrogant,



El Greco. Above: The Holy Family with Bowl of Fruit (Cleveland Museum of Art). Notice especially the artificiality of the hands of the Child and the women, the Child's badly drawn lower face, the lopsided features of the Virgin.

Left: The Resurrection, in the Prado, Madrid, is another example of El Greco's exaggeration.

boastful and proud, but dead in a sterile sort of half-life. Into this environment so bitterly anti-Muslim, so grimly Catholic, so slavishly servitor to customs and mannerisms of speech, behavior and life that no longer held any significance or purpose, El Greco entered with a devotion and sincerity that astonished the Spaniards themselves. Yet always, proud of his birth and nationality, he signed almost all his work, *Domenikos Theotokopoulos, Krees, made it*.

IN THAT AMBIENT, almost as far removed from the living world of the day as though it were on another planet, El Greco perhaps without conscious effort slipped back out of the factual world. Spiritually and mentally intoxicated by his unusual surroundings, he went into what might be called an ecstatic trance. From it emerged the procession of haggard, emaciated



El Greco. Left: The grieving and repentant Saint Peter. The drawing of the face is especially notable, with the mouth and nose both out of line with the other features, and the hands and fingers suggesting those of a muscular woman (San Diego, California). Center: "The Man with his Hand on his Breast" or "Unknown Gentleman," a superb signed portrait. Right: A striking canvas whose title is disputed. Called both "Saint Louis of France" and "Saint Ferdinand of Castile," it is another example of what El Greco could accomplish in portraiture without exaggeration when he chose (Louvre, Paris).

saints, weird "portraits" of the city of Toledo, and a few virile, amazing likenesses of individuals which reveal with the intensity of a lightning flash the penetrating insight and tremendous power of the real mind but rarely perceived behind the mask of the poseur and greedy showman. Whether his work repels or enslaves the beholder, it is never weak, never less than suggestive of something beyond itself and of forces barely curbed by a tight leash. One glance at his finest portraiture is enough to dispose forever of the astigmatic theories. No man whose vision was oblique and deficient could paint magnificently one day and like a fumbling schoolboy the next. El Greco's defect lay far deeper than the merely physical.

Toledo rudely snatched him from the world and forced him back into the hard mysticism he had drained to its dregs in San Pantaleimon, piled upon that its own hypnotic version of dogmatic Christianity, and set the soul of the neurotic ablaze with

emotions he felt acutely without being able to identify them. There is the whole secret of El Greco's work, if secret there be one. Until any emotion in any circumstance is thoroughly identified and comprehended, it cannot be expressed. A simple experiment with a mirror is convincing. Looking into the mirror, try to make your features express *intense* love, *intense* fear, *intense*

hatred, *intense* emotion of any sort you choose. What the mirror reveals is a weak and silly looking vacuity, because you have not actually experienced what you try to express. Similarly the Cretan, in endeavoring to express in paint on canvas the physical likeness of features responding to personal experience of God, could not do so because he did not feel that himself and hence could not imagine the appearance of a saint or sinner who did.

Yet his emotion drove him to



El Greco. The Young Acolyte. Detail of the Burial of Count Orgaz.

expression. Paint he must, to relieve his own spiritual tension. At that point not astigmatism but trickery enters the work. El Greco was a master draughtsman when he chose to be. He could execute a portrait which was a superb likeness with all the naturalistic quality of a Velázquez when he was moved to do it. But to paint the spiritual combination of intense humility and overwhelming uplift in contact with Divinity was something no painter had ever done. No human being had ever registered such a tremendous emotion before an artist for the benefit of humanity. There were no guides for the creation of something entirely new in art. The wooden saints and Saviors of all art back to the beginning could not help.



El Greco. Saint John Baptist. The familiar distortions and exaggerations are all here, but astigmatism does not account for them.

To a man of the painter's lively imagination and unfettered temperament, substitution was the inevitable answer to his problem. From that necessity grew his violent distortions, impossible posturings and, at times, violent colorclashes. Since he could not identify to himself what he felt spiritually when he painted, he deliberately created figures that only at a distance resembled human beings. His wild extravagance was the outcome of his furious struggle to impress humanity into believing something he himself did not comprehend or fully grasp. The result was inevitable. Truth vanished; hyperbole replaced it. Saintliness became a mawkish sentimentality. Grotesquely elongated bodies and tortured postures were the mark of his attempts to dis-

Portrait of the Roman miniature painter Giulio Clovio (Naples Museum). Painted before he left Rome, this portrait is superbly naturalistic and free from the affectations which later marred most of El Greco's work.



El Greco. The Virgin with Santa Inés and Santa Tecla (National Gallery of Art, Washington). The painter's mastery of his palette never was disclosed to greater advantage than here despite the complete lack of expression in the faces and the general artificiality of the highly posed and conscious whole.





Above: El Greco's *Assumption of the Virgin*. The elongation of the figures and the violence of the composition are especially marked here.

Above, left: Central detail from the *Burial of Count Orgaz*. Magnificent drawing and strength in the central figures, and strong, lively color.

Left: *Christ healing the Blind Man*. A work produced before exaggeration had robbed the artist of his humanness.

tinguish the saint in ecstasy from the ordinary human being. Astigmatism? No! At first, self-deception and a praiseworthy endeavor to express the inexpressible; then downright showmanship and artistic charlatanry, highly impressive through the centuries, but not as the painter meant them to be.

There is no room here for detailed studies of El Greco's various works, many of them great, most of them majestic, nor for the long and interesting if futile discussions and opinions regarding the fabled astigmatism. One remark should suffice: we note one characteristic fault by striking the balance between him and his greater late contemporary, the peerless naturalist Velázquez. Study of the scores of El Greco's best known paintings reveals the rather startling fact that,

like some popular modern novelists, he had only one story to tell. With each telling, he dressed it a little differently, but it was the same story, painted always in the same style, and told in a single type of features with extraordinarily little variation. His imagination and his perception of human qualities, in a word, seemed in eclipse except on very rare occasions. Velázquez, on the other hand, profoundly aware of human characteristics, the keenest and most penetrating of observers, told a completely different story in each canvas. He takes us far beneath the superficial likeness of the individual into his inmost soul so brilliantly that his portrait of a Court fool or a clown absorbs us as definitely as his revelation of the defeated and helpless Philip IV or his terrible indictment of Pope Innocent III.



Site of the Monastery of Phoebammon, in the Thebaid

A COPTIC MONASTERY NEAR THEBES

By Charles Bachatly

Secretary General of the Society for Coptic Archaeology, Cairo, Egypt

THE SOCIETY FOR COPTIC ARCHAEOLOGY HAS drawn up a programme of exhaustive research for the Coptic monasteries of the Thebaid. The generous donation of a member, Mme. HELEN N. H. WISSA, enabled the Society to begin this work, and a still unexplored site was chosen, in the desert on the west bank of the Nile, some ten kilometres south of Luxor.

So the most ancient monastery known in Egypt was discovered—that of Phoebammon. The remains comprise cells, a chapel, a refectory, kitchens, ovens, barns, stables, etc. It was built in storeys in a sort of hilly arena, and backs on a steep cliff twenty-five metres high, at the end of a narrow and winding valley.

The existence of the Monastery of Phoebammon

was known from a number of documents found at different sites in the Thebaid mountain, in particular at Deir-el-Bahari and Deir-el-Bekhit. Previous attempts at identifying the site had been made, based on these finds; notably by the New York Metropolitan Museum of Art Expedition, which excavated the Monastery of Epiphanius in 1912—1914, and placed the Monastery of Phoebammon at Deir-el-Bahari. Several other theories were put forth and it is interesting now to be able to fix with certainty the position of this famous foundation.

Its inception probably dates from the beginning of the fourth century A.D.; this approximation is based on the pagan influence discernible in the drawings, as

well as the frescoes recalling those of Pompeii, and on the use of a Greco-Coptic vocabulary found among the inscriptions.

The monastery does not appear to have survived later than the eighth century, as shown by the total absence of Arab influence and the entirely Roman character of the pottery. The fall of rocks into the buildings, and the fear of a general collapse of the cliff, seem to have caused the monastery to be abandoned. Consecutive dykes have been found on the upper plateau, in a wadi (valley) the water of which runs down to the monastery during the infrequent, but sometimes heavy, downpours of rain.

Only one other complete Coptic monastery is known, that of St. Simeon at Aswan, the remains of which were minutely searched some years ago by Mr. UGO MONNERET DE VILLARD. Although much later in date, it presents some interesting architectural resemblances to the recent discovery (e.g., the plan of the stables).

The site is rich in graffiti, inscriptions, and drawings—more than three hundred have been collected, and

a number of ostraca have been found. The evidence of the monks' daily life, as well as the animal and vegetable remains, will enable the life of a Pachomian Monastery of the fourth century to be reconstructed with sufficient detail.

On the other hand, no religious object of value nor papyri—apart from a few fragments which may have a palaeographic interest—have been found. The discovery in various other places of important documents, such as papyri and ostraca, belonging to the Monastery of Phoebammon, supports the theory of a voluntary abandonment of the site. The monks must have taken everything of value with them and have been

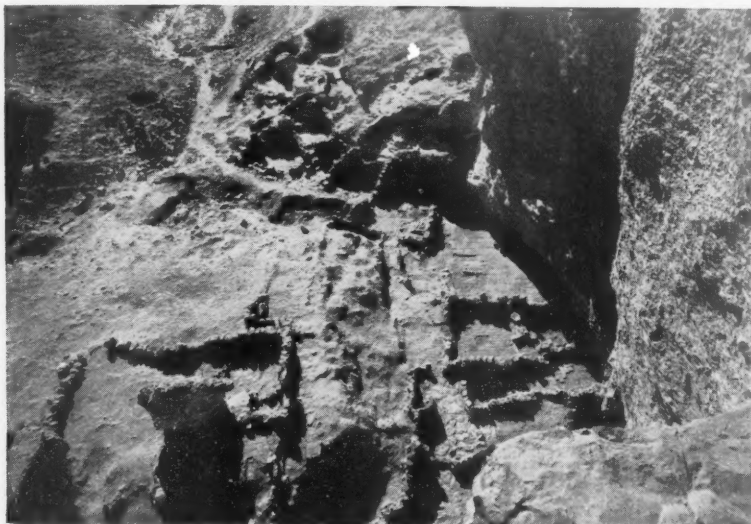
welcomed in the neighboring monasteries.

The study of the inscriptions and graffiti has added much new and interesting information on the history of the site and furnished the names of various monks occupying the posts of steward, librarian, etc. The exact position of the retreat of Pisanthios, the famous bishop of Keft who passed sixteen years in the Monastery of Phoebammon, has been established.

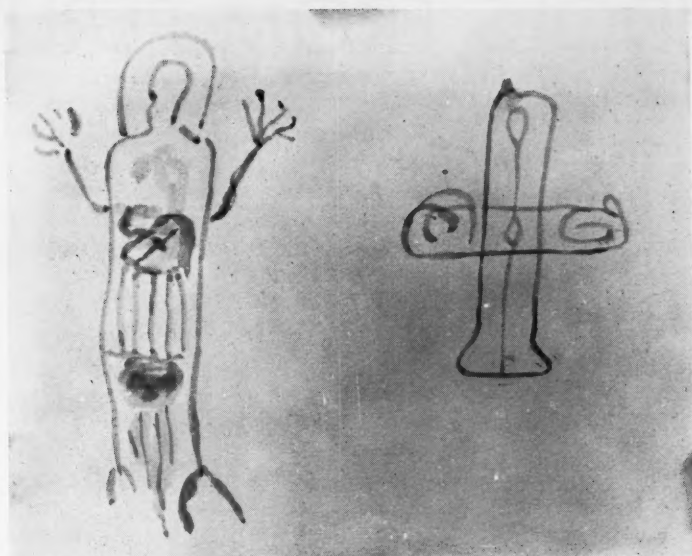
The final results of the Society's work on this site will provide an important new contribution to our knowledge of the first centuries of Christian history. The Society for Coptic Archaeology, by its meticulous research and study of the remains, proposes to re-create the living history of the beginnings of the monastic institution in Egypt.



Monastery of Phoebammon. Graffito from Pisanthios' grotto.



Monastery of Phoebammon. View of the Excavations from the north.



Monastery of Phoebammon. Left: Drawing, in red ink, from a monk's cell. Right, mummy of a steward, raised, cleaned, and temporarily replaced in the original grave.

TRUTH BEFORE BEAUTY

Reprints of ALISON FRANTZ'S article on archaeological photography, **Truth Before Beauty**, on pages 202-214 of the December issue (Volume 3, No. 4), have been stocked and may be ordered from the business office of *ARCHAEOLOGY*, 100 Washington Square, East, New York 3, N. Y., at 35c each or \$3.00 in lots of ten.

WOODEN IDOLS FROM PERU

By Richard P. Schaedel

*Mr. Schaedel is the young Yale anthropologist who went to Peru in 1947 on a traveling fellowship to study the stone sculptures of the Andean civilizations (see *ARCHAEOLOGY* 1.66-73 and 1.198-202), and stayed to organize the Institute of Anthropology of the University of Trujillo. With his students he has explored the valleys of Peru's north coast and has excavated in the outskirts of Chan-Chan. At the Huaca el Dragon, whose adobe outer frieze he described in *ARCHAEOLOGY* 2.73-75, he has now found the wooden figures described below. In 1950, thanks to a grant from the Colt Archaeological Institute, he was able to extend his explorations southward with remarkable success, and in future issues we plan to publish further discoveries by Mr. Schaedel and his institute.*

A SURPRISING SEQUEL TO THE DISCOVERY OF THE extensive friezes in the Huaca el Dragon on the Peruvian north coast was the discovery of a cache of exceptionally well-preserved wooden idols within this elaborately decorated temple.

The Institute of Anthropology of the University of Trujillo had been engaged since 1948 in the slow but rewarding process of clearing some 500 square meters of friezes from the exterior walls of the temple, and late in 1949 we were directing our attention to the equally ornate interior. While awaiting the loan of a caterpillar tractor to help clear out the debris which had accumulated in our preliminary clearing of the interior walls of the temple, we continued to probe the seemingly endless sequence of decorated panels. In one of these trials we had barely removed a few feet of sand from the wall and were patiently whisking the sand from the reliefs when our workman let out a shout and fell into a hole in the sand beneath his feet. Before extricating himself from the hole he put his hand upon some wooden objects which he guessed to be "dolls."

Despite the difficulty of working in very cramped quarters, we immediately set to work to clear the zone of this fortunate catastrophe.

We found a mass of human and animal bones, most of them already bleached, showing that they had been exposed to the sun at some time in the past. Scattered among these disjecta membra were eleven wooden "dolls." It was obvious that these remarkable pieces of wood sculpture had already been uprooted from some original location, as indeed had been the bodies of the unfortunate individuals which all the king's horses and all the king's men could not possibly fit together again.

The idols owed their fine state of preservation to the fact that they had been covered over by a slight layer of sand, either blown in by the wind or heaped upon them by their original despoilers, after which one of the infrequent (25 to 50 years apart) rains had packed this sand into a hard cap which subse-

quent rains did not penetrate. We counted four more such rain caps above the first, indicating that the violators of this temple had preceded us by at least 150 years.



Fig. 1. Huaca el Dragon, near Chan-Chan, Peru. Air view of the ruin before excavation. Corners of the inner structure may be distinguished. Of the nearly parallel diagonal lines, the darker is the Pan-American Highway, the other the local railroad line. (Servicio Aerofotografico Nacional)

Even if we did not have this evidence, common sense would have told us that this was not the work of modern treasure seekers or "huaqueros," who are scrupulously thorough in their unscrupulous pastime.

Later on in our excavation we were able to explain the significance of this premature discovery. We resumed work on the interior of the temple, which though disappointing in that treasure seekers had been there before us, proved of great value in enabling us to establish for the first time the internal form of the ancient Peruvian temple.

The interior walls which we had begun to clear surrounded and walled in on three sides of the building fourteen cubicle-like rooms. On the fourth side we discovered a rather steep, frieze-flanked ramp leading to the second story of the temple. We excavated a number of these rooms, finding among other things that they had no doors, so that the only possible communication was to the second story and that by means of some sort of ladder. We were also able to establish the function of these rooms as temple workshops, wherein special craftsmen (or women?) elaborated objects for cult ceremonies. In some of the rooms we found more idols of wood. It was from one of these



Fig. 2. Huaca el Dragon. In the foreground, part of the exterior wall, with its relief sculptures moulded in mud and painted, as already described and illustrated in *ARCHAEOLOGY* 2.73-75. A modern wall of adobes has been erected to protect it. In the interior of the structure, just to the left of center in this picture, is a group of cubicles, also decorated with painted mud reliefs; behind them rise the remains of the building's second story.

monastery-like cells that our original cache had apparently been pitched. Although we found a total of more than 25 wooden idols in either complete or fragmentary condition, there was no direct evidence that they had been manufactured here. We did, however, find evidence that the occupants of these rooms worked on shell incrustations, since we found the shells in all stages of manufacture in great quantities. Note that the idols themselves had shell incrustations for eyes, ears, and, in some instances, for body decoration in the form of birds.

While we found the bones of 80 individuals, most of them adolescents, we were able to excavate but one undisturbed burial, that of a small child buried in the floor of the second story with the omni-

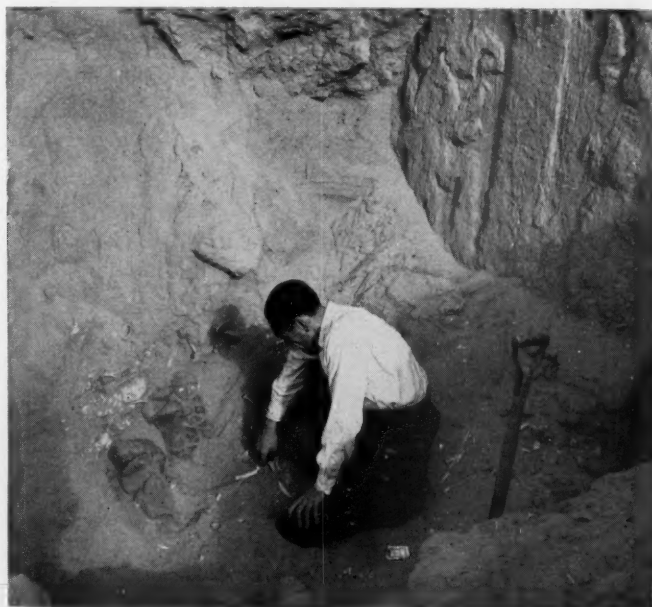


Fig. 3. Huaca el Dragon. The site of the discovery of the wooden idols. Sr. Luis Gutierrez, assistant to the field director, is examining a seated and a standing cup-bearer and a dark seated female, in situ. Note the remains of low relief friezes on the inner wall, initial probing of which led to the discovery of the idols. The parched human bones are directly behind the idols.



Fig. 4. Huaca el Dragon. The back of one of the wooden idols lying in a pile of disjuncta membra. The adobe bricks to the right were our improvised retaining wall.

present deposit of shells. The only utilitarian pottery found consisted of water jars, and decorated sherds were exceedingly scarce. No remains of cooking within the temple were encountered. There were in addition numerous textiles and metal objects which will be described in the final report, where we hope to explain some of the perplexing questions about the inhabitants of the temple.

BUT LET US RETURN to the idols themselves. While these were not the first wooden idols to be found in Peru, they represent by far the densest concentration. Wooden idols have been reported and illustrated from time to time in reports of travellers during the nineteenth century. Surprisingly enough, most of them were found on the islands off the central and north coast of Peru. At the turn of the century MAX UHLE excavated a few in the famous ceremonial

center of Pachacamac south of Lima. A number of others have appeared in museums, usually without provenience. I know of none which closely resembles the specimens we unearthed, with the exception of one statue in the Museum of the American Indian, in New York, which may indeed have come originally from the Huaca el Dragon.

The idols of the Huaca el Dragon were of two general types: seated females and standing males. The females may again be subdivided according to the type of wood used. The more numerous group were carved from a light, balsa-like wood of light brown color. They have an average height of thirty-five centimeters, width of twenty centimeters, and thickness of about nineteen centimeters. A staff projects below the figure; it was apparently used to carry the statue in procession or to plant it in the ground, possibly both. The females are with one exception humpbacked.

One group, those with a hemispherical headdress, have the body covered with feathers and small metallic incrustations. Those with trapezoidal headgear are covered front and rear with incrustations of birds. With two exceptions they hold cups in one hand. Their faces are painted with red cinabar pigment and they have shell incrustations for eyes and ears. The minority group were carved out



Fig. 5. Huaca el Dragon. The second story of the temple, with the doorway leading to the ramp. The floor was restored after excavation of the child burial.

Fig. 6. Huaca el Dragon. The crew from the Institute of Anthropology searching the remains of the infant burial in the floor of the second story. The sieve is used to catch the tiny vegetal beads which were found here and in other points in great quantity.





Fig. 7. Huaca el Dragon. Two extraordinarily well preserved wooden idols of the blond cup-bearer type. The idols were originally painted and on these two the bright red paint on the faces is still intact. The holes along the rim of the cap were probably marks of nails used in fastening a metallic 'helmet' or head-dress. With these drawings, reproduced at about one-sixth natural size, compare Figures 8 and 9.



Fig. 8. Huaca el Dragon. Female cup-bearer, with incrustations of feathers and metal. Compare Fig. 7.

of hard algarroba wood, of a dark brown color. They are somewhat smaller, about ten centimeters in each dimension, and are without staves. Likewise, it will be noted that they are not humpbacks. No body decoration was applied. None of the females in dark wood bear cups.

The male contingent may be subdivided into cup-bearers and litter-bearers. With one exception, all are of the light wood. The litter-bearers are without the supporting staff. All have the trapezoidal headdress, but wear breechclouts. They are decorated with incrustations of birds, mostly of the dark algarroba wood, though one has shell incrustations. The litter-bearers measure about forty-five centimeters in height, and are seventeen centimeters wide and ten centimeters thick. The cup-bearers are about half that size. The litter-bearers apparently came in pairs, but the fragmentary condition of some specimens made it impossible to ascertain this point. We were also unable to discover remains of a litter or a person who might have sat on it, with the exception of the three



Fig. 9. Huaca el Dragon. Female cup-bearer from behind, showing humpback and inlay of algarroba wood birds.



Fig. 10a (left). A cup-bearer, feathered, light wood or "blond" type, well preserved. Note eyes and ear-plugs of shell inlay, and algarroba wood inlay on cup. Fig. 10b (center). The blond, feathered cup-bearer of Fig. 10a from the side, showing humpback. Fig. 11 (right). A female idol of light wood, similar to the cup-bearer type but without the cup. Note inlay on chest, and decoration indicated on left wrist and legs.

seated females carved in dark wood, already alluded to.

While the excavation of the Huaca el Dragon has been conducted intermittently since June, 1948, by the limited staff of the Institute of Anthropology, the work is still not completed. The disastrous effects of vandalism have destroyed many clues which would have given us more definite information on the cultural af-

filiations of this monument. While it is fairly certain that the temple dates from about 1100 A.D., the exotic quality of the relief friezes and the idols themselves suggest cultural antecedents as yet unknown from outside the area. Let us hope that fortune will permit us the opportunity of adding yet another sequel to the decipherment of this enigmatic ruin.



Fig. 12 (left). Huaca el Dragon. Seated female figures of algarroba wood, informally called the "tank-driver" type from the curious helmet. About one-eighth natural size. Fig. 13a and 13b (right). Other female figures of the same type as those shown in Fig. 12, one in front view, one in profile. These are dark wood or "brunette" types. Note the shell earplugs and the holes drilled in the edge of the cap for the attachment of a helmet.



Fig. 14 (above). Huaca el Dragon. Standing male cup-bearers, showing two distinct ritual attitudes. Notice the inlaid decorations on chest, back, and cups.

Fig. 15 (upper right). Another standing male cup-bearer, very similar to those in Fig. 14. About one-seventh natural size.

Fig. 16 (right). Huaca el Dragon. Left, the "Peruvian Venus," a seated female idol of distinct type, in front and rear views. Right, a fragment of a wooden figure of "litter-bearer" type (see below), found in the same chamber with the Venus.

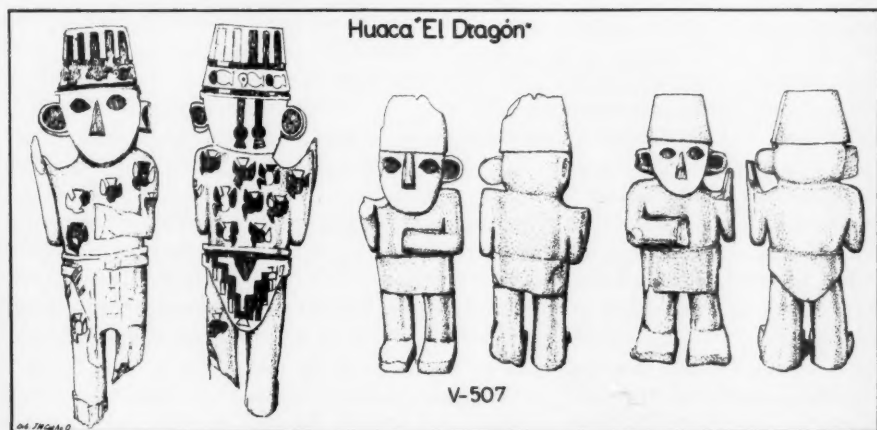
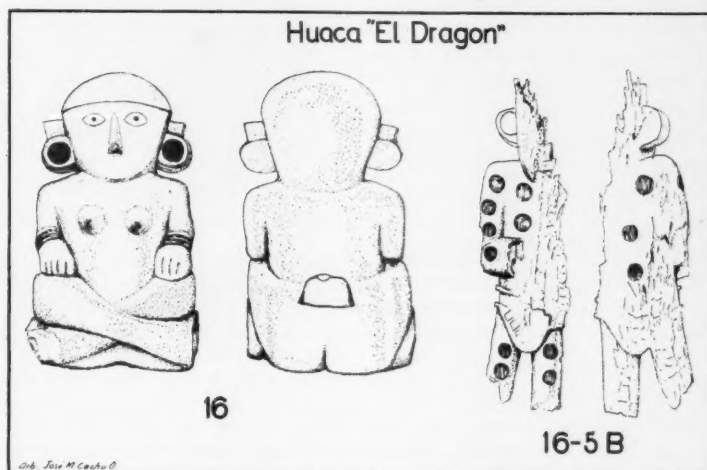


Fig. 17. "Litter-bearers," showing the shoulder notch in which the litter pole rested. In the figure at the left, note the extraordinarily elaborate inlaid decorations on head-dress, chest, back, and apron. Of the other two, one is right-handed, one left.

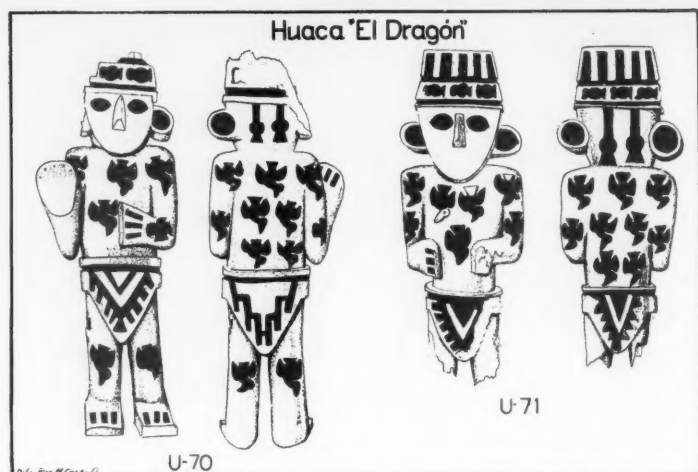


Fig. 18. Male figures of light wood. The man on the left is holding the right hand in the typical carrying position of the litter-bearer, although the typical notch in the shoulder is missing. The figure on the right may have had still another function, or it is possible that he supported a litter at his waist.

HUACO, HUACA, HUAQUERO

When Mr. SCHAEDEL published his first account of the Huaca el Dragon, in *ARCHAEOLOGY* 2.73-75, Associate Editor J. A[LDEN] M[ASON] took exception to his use of 'huaca.' This term, he said, "originally meant a grave or sometimes a ceremonial site, and a native who digs graves for their content is called a *huaquero*. However, the meaning of the word has been greatly extended so that today, in Peru at any rate, a single pre-Columbian pottery vessel is also known as a *huaca*; I think this extension of the term not scientifically acceptable." Mr. SCHAEDEL in turn takes counter-exception to Dr. M[ASON]'s remarks: "Three years in the north coast of Peru," he says, "have convinced me that 'huaco' is a pot of the ancients, 'huaquero' he who digs it up, and 'huaca' the ruin, cemetery, or other place where he digs. There is a famous Peruvian marinera, or national dance, 'Huaquero Viejo,' whose refrain, for instance, runs

*Yo soy un huaquero viejo
Que vengo a sacar huacos
De la huaca mas arriba, O!
De la huaca mas abajo!*

I.e., "I am an old huaquero, I come to dig up pots from the ruin further up, from the ruin further down!"

CUMIN AND VINEGAR FOR HICCUPS

A NOTE ON PHARMACEUTICAL ARCHAEOLOGY

By George C. Miles

FOR MANY YEARS the rubble and ruins of Fustat, the early Arab capital of Egypt which later became the Misr al-Qahirah of the Fatimid Caliphs and Mamluk Sultans and the Cairo of today, have yielded countless treasure to "pot-diggers" and professional archaeologists alike. Scarcely to be reckoned as treasure but rich in interest to the student of the life of the common man in this eighth century metropolis are fragments of glass bearing stamped inscriptions variously known as "vessel stamps," "bottle stamps," or "estampilles en verre." Not unlike in appearance, and doubtless genealogically related, are the ornamental circular blobs

of glass sometimes today, and more commonly in the nineteenth century, attached to brandy and liqueur bottles. These inscribed stamps bear a variety of legends in early Arabic, or Kufic, characters, relating to the capacity and to the nature of the contents of the vessel to which the stamp was attached, and to the state and municipal administrations responsible for the certification of weights and measures.

A reexamination and fresh appraisal of these glass fragments, particularly with respect to the substances and liquids specified in the authenticating legends, has resulted in an interesting discovery, or at least a plausible hypothesis: The vessels bearing stamps of this sort were the cups and jars in which the druggists of eighth century Egypt measured and sold their pharmaceuticals—in other words, the equivalent of the glass containers in which we buy proprietary products or receive our doctors' prescriptions from the pharmacy today. The two examples presented here are selected from a con-



Fig. 1. Glass stamp for a druggist's container: a measure of cumin. (Museum of the American Numismatic Society, the gift of L. H. Schroeder, 1949)

siderable mass of material assembled to support this view and soon to be published.

The first (FIGURE 1) is a stamp bearing the inscription: "In the name of Allah: the Amir Muhammad, son of al-Ash'ath, ordered the stamping of it, a measure of white cumin; executed by ('at the hands of') 'Abdullah, son of Rashid." The first named personage, Muhammad b. al-Ash'ath, was governor of Egypt for the Abbasid Caliph of Baghdad in the years 759 and 760 A.D., while 'Abdullah b. Rashid was the Prefect of Police at Fustat, responsible among other things for the city ordinances which standardized weights and measures

and for regulations governing public safety and health. The Caliph whose public servants they were was al-Mansur, grandfather of Harun al-Rashid.

White cumin (*kammūn* in Arabic, *kymionon* in Greek, *cuminum* in Latin) is the seed of the dwarf plant *Cuminum cyminum*, widely cultivated in the Near East since early times for its aromatic and pharmaceutical properties. Like many other seeds specified on Egyptian Arab druggists' stamps, cumin had its place in the ancient and mediaeval *materia medica*. Dioscorides, the great first century herbalist and pharmacologist, prescribed cumin with water as a cure for gripes and inflations, with vinegar for hiccups, and with wine as an antidote against poison. In the opinion of Ibn al-Baytar and his predecessors in Arabic botany and medicine, cumin, roasted and steeped in vinegar, was effective as a stomachic and emmenagogue. Nor were these prescriptions for the use of cumin as a medicament without some justification, for the seed



Fig. 2. The Cumin Plant, from a tenth century manuscript of Dioscorides' *Materia Medica*. (The Pierpont Morgan Library, M. 652, fol. 80r.)



Fig. 3. An eighth century Egyptian measuring jug for olive oil. Ht. 0.075 m. (Musée de l'Art Arabe, Cairo, No. 14696)

(*Cumini fructus*) is still listed in *The Dispensatory of the United States of America* (1947 edition) as a stimulant, antispasmodic and carminative, chiefly in veterinary medicine.

The accompanying illustration of the cumin plant (FIGURE 2) is from the magnificent tenth century Constantinople manuscript of Dioscorides' *Materia Medica* in the Pierpont Morgan Library.

Among the seeds, fruits, substances, and liquids named on glass vessel stamps, all of which had pharmaceutical uses in antiquity and the middle ages, are lupine, sesame, chick-pea, fen-

nel, lentil, broad bean, chickling vetch, pea, peach, cheese, ointment, and oil, especially olive oil. Quite frequently the quantity is specifically stated, usually a *qist* (pint) or fraction thereof.

Intact vessels with stamps attached are exceedingly rare. FIGURE 3 illustrates a fine example, a jug in the Musée de l'Art Arabe in Cairo. The stamp, which is placed close to the rim, reads, "Measure of pure (or fine, high-grade) olive oil," a commodity highly esteemed not only for its nutritional value but also for its medicinal properties.

NOTES

The forthcoming supplement to the author's *Early Arabic Glass Weights and Stamps* (Numismatic Notes and Monographs, No. 111), New York 1948, will contain this and other new material. I am grateful to the Trustees of the Pierpont Morgan Library for permission to reproduce FIGURE 2, to HUSSEIN BEY BACHED, Director of the Arab Museum, for the photograph which appears as FIGURE 3 and permission to print it, and to M. MARCEL JUNGFLIECH of Cairo for bringing the existence of this and other stamped vessels to my attention.



The emergency nature of the Inter-Agency Archaeological Program is well illustrated by this photograph of a field party starting the excavation of a site in the shadow of a dam which is rapidly nearing completion, the Angostura reservoir in South Dakota. Since this was taken, the area where the men are working has gone under forty feet of water.

THE INTER-AGENCY ARCHAEOLOGICAL SALVAGE PROGRAM IN THE UNITED STATES

By Frederick Johnson

For the Committee for the Recovery of Archaeological Remains

ARCHAEOLOGISTS LEARNED, IN 1945, THAT THE Federal government was to build literally hundreds of dams in numerous river basins throughout the United States. The reservoirs behind the dams were destined to flood many hundreds of square miles of valley and bottom land. It was ob-

vious that this would obliterate a large and very significant portion of our knowledge of the history of the Indians. As is well recognized, this history is valuable to scientists, to educators, and also to the general public which has a deep-rooted interest in our predecessors in North America.



In contrast to the orthodox methods of excavation previously followed, the use of heavy equipment has now become an important factor. To save time and speed up operations, bulldozers have been used to remove extensive overburden with good results at many sites. In many cases more has been accomplished in a few short weeks than could have been done over a period of many months by former methods. Careful check has shown that there is less actual damage to materials than is the case where large pick and shovel crews are used for such work.

Investigation revealed that government plans were well advanced. Many dams had been authorized, and construction on some had already begun. The Bureau of Reclamation and the Corps of Engineers were going ahead with others as fast as possible. If any archaeological material was to be saved it had to be done speedily. In fact, American archaeologists were faced with an emergency situation.

The only record of the Indians comes from study of the objects they left behind them. Since by far the greatest proportion of these peoples lived along the rivers where they could find game and where arable land was plentiful, this record lies buried in the bottom lands of the valleys. Only a sketchy and incom-

plete outline of this record was in existence. For example, there was but a rudimentary knowledge of the Mandan, Hidatsa, and Arikara Indians. The areas along the Missouri river that these tribes had occupied were to be almost completely flooded. Furthermore, there was only a smattering of knowledge concerning more ancient peoples, some of them the first to move into the region. In Oregon and Washington, reservoirs were to cover large areas which had never been investigated. No one knew how the former inhabitants may have lived and where they came from. To a lesser extent the same applied to regions in California, Texas, and in sections of the Southwest. In Oklahoma, Georgia, Kentucky, West Virginia, and

At a site which was subsequently destroyed by construction work at the Oahe Dam on the main stem of the Missouri river in South Dakota, the remains of both rectangular and circular structures were found. Two types of rectangular houses were built; stratigraphic evidence shows that one developed out of the other. Last to be erected were the circular structures. The rectangular houses have been identified as Mandan, while the circular belonged to the Arikara culture. The location apparently had been abandoned for some time by the Mandan before the Arikara moved in.

The aerial photograph illustrates how some of the overburden was removed before digging in the house remains was started.



In the Missouri Basin complete floor plans have been obtained in the process of uncovering former village areas. The molds left by wall posts outline the shape of such structures. Cache and fire pits occur at various places within the area of the houses.



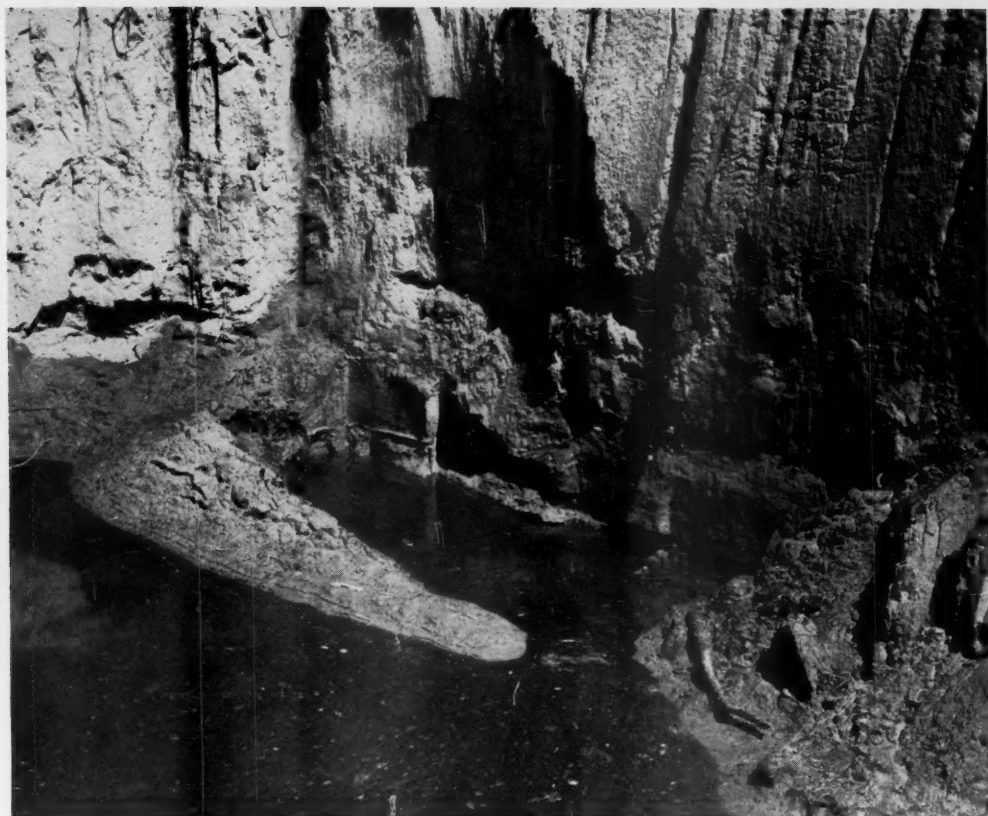
Excavations at an important Early Man site on Lime Creek in western Nebraska were carried on while the waters of Medicine Creek reservoir were rising to the level where the archaeological materials were found.

other places in the southeastern United States, Indian mounds and village ruins, including the remains of highly developed cultures, were threatened with destruction.

In organizing the salvage program, everyone recognized that it was not desirable, or even necessary, to recover all the materials which would be flooded. It was urgently necessary to salvage about ten per cent of the materials, and to do this in such a way that all phases of the history and development of the Indians would be known. Primary plans called for carrying out immediately two principal stages in the salvage operation. The first was to find out what kind of Indian remains were available in each of the reservoir areas. In 1946 the first survey parties were sent out, particularly in the Missouri basin. These have continued to the present time both in the Missouri and

in many other basins because surveys are necessary as soon as new dam projects are proposed. These survey parties search out Indian sites for which there is no present record. Also, it is necessary often to check old records, especially in the light of recent information. Since the time the surveys began, some 3000 prehistoric and early historic sites have been located.

A study of the survey records has produced a long list of sites which must be investigated by careful and extensive excavation if adequate information concerning the people who inhabited them is to become available. This phase of the work requires much more time than the surveying did, and it is much more costly. However, such work is being accomplished more quickly and more economically than it used to be through the use of power machinery when it is available. In regions where conditions permit, the over-



Before the excavations could be completed, the Lime Creek site was flooded out and all opportunity for obtaining further information was lost. Charcoal from this location has given a Carbon 14 date of 9,524, plus or minus 450, years ago.

burden of soil, sometimes four and sometimes ten or more feet thick, has been scraped off by bulldozers or road patrols revealing the remains of prehistoric occupation. To do this by hand would be too slow and prohibitively expensive. The machines do another thing. They can clear large areas in a relatively short time so that, for instance, the arrangement of houses in a village, actually the result of primitive town planning, can be seen and recorded.

To date about twenty-five sites have been excavated under the program. Through the cooperation of local, private, and state institutions, the detailed information from an impressive number of additional sites has been gathered. Reports on all this work are being assembled. In the Missouri basin, for example, excavation of the Long site in the Angostura reservoir brought to light an unusual and barely known variety

of Yuma arrowpoint together with charcoal which has been dated as being about 7700 years old. Other excavations in the Garrison and Owahe reservoirs have established a sequence of development beginning with the early Mandan and ending with the time when the first settlers met either the Mandan themselves, or their successors the Arikara.

In the Columbia river basin kinds of objects of Indian manufacture belonging to people so little known that they have not yet been named were discovered in caves and ancient village sites, formerly existing in the Equalizing, Chief Joseph, and other reservoirs. An excavation in the Buggs Island reservoir in Georgia produced the largest number of Indian burials yet taken from a single location in the region. A nearby village yielded a large quantity of prehistoric remains which have not yet been classified.



Artifacts from the sites currently being excavated give a good picture of the material culture of the people. In the Medicine Creek reservoir area, in western Nebraska, scapula hoes, antler punches and awls, bone whistles, beads, needles, and fish hooks were common. Four-edged stone knives and small arrow points were skillfully made. Artistic tendencies were expressed through the carving of simple designs on bone and the bowls of stone pipes and through representations of the human face.

Again, for example, in Texas the excavation of the Towash village serves to document a large settlement in which the first white people lived side by side with the Indians. The account could continue, but this perhaps indicates that the Salvage Program is well under way, and it is commencing to produce significant information, a large part of which is unique. While the present accomplishments of the program are impressive, the task ahead is so great it is hard to measure. Surveys must continue to keep pace with developments in the valleys, and at the very least 300 or more sites must be excavated before the dams are built and the waters impounded.

In a sense, the salvage work is only at the beginning of a primary but essential phase of its work, that is, the gathering of information. Plans have been made for the publication of the initial studies. This is the primary record of work accomplished. Once this is

available, archaeologists connected with the Program and others throughout the country will spend much time and effort interpreting the significance of the results. As this progresses the material will become increasingly useful and valuable to scientists, laymen, and anyone else who may be interested.

The Inter-Agency Archaeological Salvage Program was organized under the sponsorship of the National Park Service which was assisted by the Smithsonian Institution. The Committee for the Recovery of Archaeological Remains, an independent body, was formed by the archaeological profession for the purpose of advising the men in the government concerning practices which would aid in salvaging the archaeological materials in a manner consistent with the highest scientific standards. The Committee is sponsored by the American Anthropological Association, the Society for American Archaeology, and the American



At the Rock Village site in the Garrison reservoir area, North Dakota, one of the house floors yielded the butt ends of most of the large timbers used in the framework of the house. Some of the specimens probably will yield tree ring calendar dates, while all give good information on the kinds of trees growing in the locality when the structure was built.

Council of Learned Societies. The National Research Council and the Social Science Research Council have endorsed the objectives of the Committee.

The program was organized successfully and speedily by the various government agencies, in the face of the fact that there was little in the way of precedent to use as a guide. A major responsibility fell to the National Park Service and everyone in the Service attacked the numerous perplexing problems enthusiastically and vigorously. The Smithsonian Institution

was charged with the task of carrying on the scientific work. The results already in hand and those promised for the immediate future are testimony to the industry of the archaeologists involved. Little or nothing could have been done without the cooperation of the men who were building the dams. The Bureau of Reclamation and the Corps of Engineers have done all within their power to aid in salvaging the necessary archaeological information. The present success is a tribute to the industry and vision of everyone involved.

At several sites in the Angostura reservoir basin in southwestern South Dakota the remains of a simple hunting culture were uncovered. A few scattered artifacts and an occasional hearth are all that is left as evidence of the former inhabitants. The men shown here are following an old occupation level. A Carbon 14 date of 7,715, plus or minus 740, years ago was obtained from charcoal found there. *(For illustration, please turn to the following page.)*

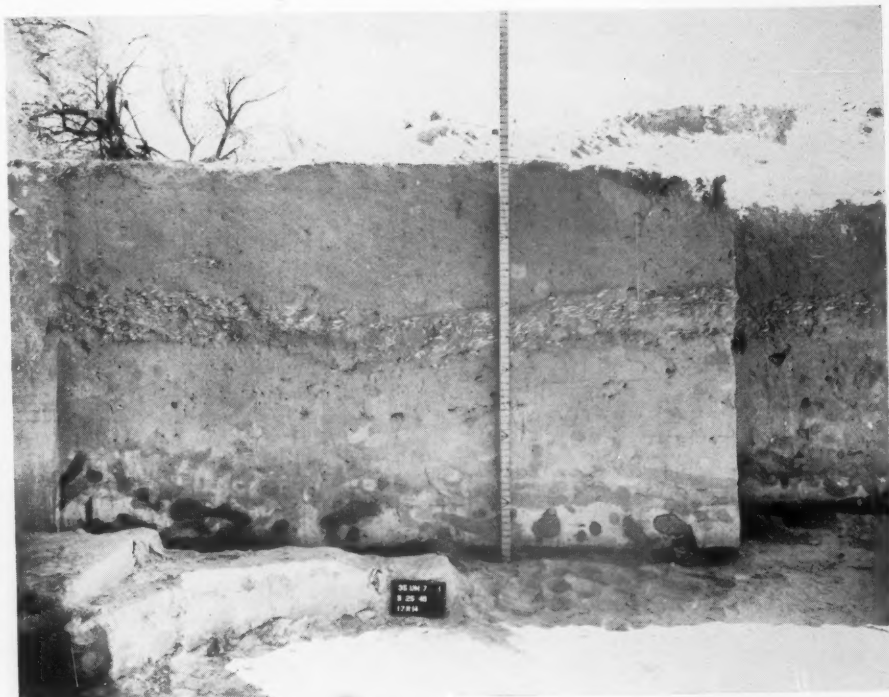






A series of fifty burials, of which the illustration is an example, uncovered at a site in the McNary reservoir, has provided excellent material for a study of physical types in the area. Previously few skeletal remains were available from that district. The mortuary offerings in this particular case consisted of a stone pestle placed by the face and a well-chipped blade at the back of the head.

Excavations along the Columbia river reveal some interesting deposits. In the section of a trench shown here, a thick layer of clam shells cuts across the wall about midway between top and bottom. The artifacts from this midden layer indicate a fairly simple culture with an economy based mainly on fishing and food gathering. Below this layer is fine white volcanic ash, probably from Mt. Adams in south central Washington, which at one time must have covered the entire countryside. It is probably several thousand years old. The midden layer rests more or less comfortably on the ash and may have been deposited there not long after the eruption which produced the ash. The material above the shell stratum is blow-sand which has collected since the occupation by the Indians who were responsible for the shell debris.





At the Terminus reservoir in California were excavated the remains of a small village. The dark circular areas above the workmen are the locations of ancient houses. In excavating this site, the house pits, storage pits, and fireplaces in and around the houses, together with other characteristics of the village, were photographed and drawn on a plan. To save time and money, no attempt was made to keep clear the area recorded. The men commenced excavation at one side of the village and worked across it progressively, throwing the loose dirt behind them.

The Chamita Dam now under construction in northern New Mexico will flood a number of fourteenth century pueblo ruins. Excavations in one of the houses uncovered a series of small rooms showing interesting architectural features.





A large rock shelter in the Bluestone reservoir area, West Virginia, yielded an interesting sequence of artifact types extending from pre-Columbian times through the recent white occupation. The deposits in the shelter were unusually deep for that area.



The aboriginal inhabitants of southern Virginia practiced a different form of burial from that used along the Columbia river. The early Virginians placed the body in an extended position. In the example illustrated here, a large shell disk rested on the chest while numerous shell beads showed that the individual

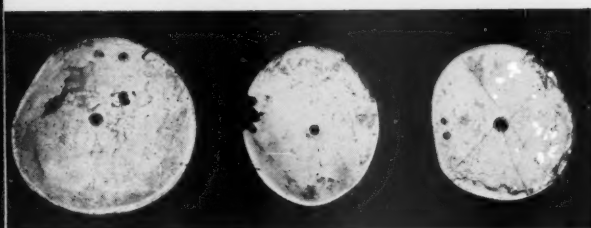
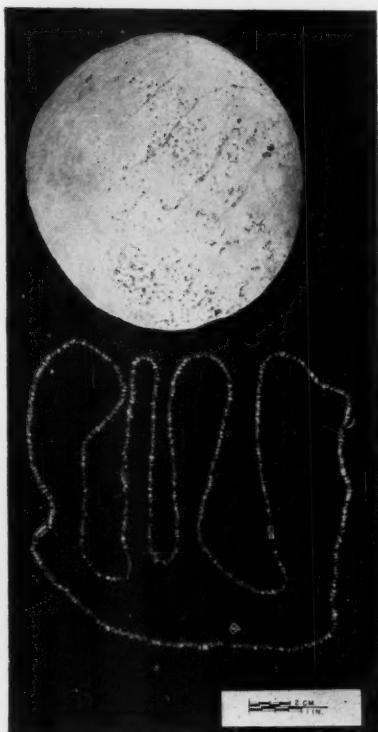
had worn an elaborate necklace and bracelets. Near the head a pile of pierced squirrel and rabbit scapulae indicated that a necklace fashioned from those bones had been tossed into the grave.



The pre-Columbian inhabitants of southern Virginia manufactured pottery vessels of several characteristic forms. In addition to those for general use, miniature forms were also made.

In the Buggs Island reservoir area, on the Roanoke river, excavations yielded numerous stone and bone objects as well as pottery vessels. Chunkey stones, celts, and pipes found there show that the people were skilled workmen.

Shell was a common source for material used in making objects for personal adornment. The inhabitants of the Buggs Island reservoir area made necklaces, pendants, and large disks from that material.





The recording of pictographs and rock paintings constitutes one of the tasks of preserving the record of aboriginal peoples in some of the areas where investigations are under way. One method being employed is that of making tracings. The men shown here are tracing a series of petroglyphs at a site in the Terminus reservoir area on the Kaweah river in California. The next two pictures are from Wyoming.





The Boysen reservoir area in the Wind River Valley, Wyoming, contains many petroglyphs of various forms. Some are cut into faces of cliffs or large boulders, while others are pecked. Black and white and kodachrome photographs, as well as scale drawings, have been made of all groups of such drawings that will go under water. The examples shown here are typical of many found throughout the area.

It is not customary to chalk in the figures such as has been done in this case until after the studies have been completed. For general photographic purposes, however, it sometimes is necessary to accentuate the figures.



One of the village sites in the Allatoona reservoir area in Georgia had a complex pattern of post molds because the Indians had erected numerous structures at the same location from time to time. In making the excavations, the field men were able to single out the series of post molds belonging to each structure, and by placing fresh sticks in the holes, as may be seen in the photograph, outline the limits of the house. Most of the large structures at this location were circular, but a few small rectangular ones, such as the workman is clearing, were also discovered.

Frederick Johnson, who has acted as spokesman in presenting this interim report of the Inter-Agency Salvage Program, is abundantly qualified to speak for anything archaeological that walks, swims, or crawls. In addition to being secretary of the Committee for the Recovery of Archaeological Remains, he is curator of the Robert S. Peabody Foundation, Phillips Academy, Andover, Massachusetts; member of the ARCHAEOLOGICAL INSTITUTE OF AMERICA and contributor of the annual summary of American news in the AMERICAN JOURNAL OF ARCHAEOLOGY; executive secretary, and Fellow, of the American Anthropological Association; member, former treasurer, and former president, of the Society for American Archaeology; member of the Eastern States Archaeological Federation; Fellow of the Geological Society of America; and chairman of the American Anthropological Association—Geological Society of America Committee on Radiocarbon Dating.



Fig. 1. Athens. The Temple of Hephaistos from the east. This temple, formerly called the Theseum, stands above the market-place on a hill where the metal-workers followed their trade. Excavators have found that in antiquity its aspect was not so bleak as it is today, but was softened by a small formal garden. Agora Excavations photo.

ANCIENT GARDENS IN GREECE AND ITALY

By Dorothy Burr Thompson

HERE AND THERE IN THE LYRICS OF ARISTOPHANES, we catch a glimpse of flowers, as on the moist meadows of Marathon, or of trees, as they whisper together over the heads of the youths at the Academy, but these are but incidental references. The classical Greeks took their flowers gladly, but they did not expend much energy on the cultivation of Nature. What they did was to humanize her ways as much as possible. They set off architecture by formal planting in the manner of the older empires.

They probably learned most from Persia. We read how the Spartan Lysander, on visiting the Persian king, Cyrus, marvelled at the orderly plan of the garden that the king had himself designed. But even more did the Greek marvel at the fact that the king, despite his fine costume, his perfume and jewelry, had sweated himself in its cultivation. Such an English passion for horticulture was not in the nature of the Greeks.

Hellenic cities, cramped within their fortifications,

had no room for private gardens. As in the empires, only the well-to-do could afford them. Xenophon describes such a park that he endowed with a tithe of the booty that he brought back from his Persian travels. When he dedicated this booty to the goddess, Ar-

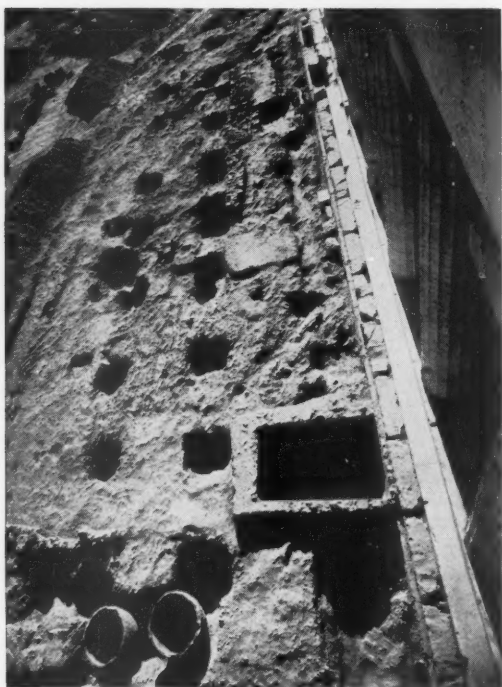


Fig. 2. The surface of the hill along the south side of the temple of Hephaistos, as seen from the roof. The square cuttings formed two rows aligned with the columns. The front of the temple was left clear. (The clay jars at the bottom of the picture, and the square water-basin just above them with late burials lying in it, have nothing to do with the garden but belonged to the monastery of the mediaeval church.) Agora Excavations photo.

temis, he built her a temple near Olympia and surrounded it with a park in which he evidently took great pride. It contained meadows and wooded hills, where pigs, goats, cattle, and horses could be bred. "Round the temple itself, there has been set a plantation of fruit-trees, which produce fruit to eat in all the appropriate seasons" (*Anabasis* 3.5.7-13). The people of the neighborhood joined gaily in hunting game to be

sacrificed at the festival. Visitors camped in the sanctuary while their animals browsed on the pasture of the goddess. Their masters were provided with barley, bread, wine, and other dainties also drawn from her bounty. Such lively occasions in the temple parks were a true expression of the easy, democratic way in which the Greeks have ever enjoyed the country—hunting, picnicing, playing games, but never sentimentalizing over the beauties of nature.

Although Greek excavators have recently discovered the temple that Xenophon built, they can scarcely hope to find its park. In fact, so far only one temple garden has been excavated and that is in Athens itself.

Fig. 3. One of the cuttings in the rock on the hill-top as it looked when partially excavated. A pot, set well below the ancient ground level, is visible in the ancient filling. This pot is shown in Fig. 4. Agora Excavations photo.



Fig. 4. Flower pots from the temple garden. The pot on the right side is that shown in the cutting, Fig. 3. In the left hand pot, the hole in the bottom was made on the wheel while the clay was soft. Agora Excavations photo.

On the low hill that overlooks the Athenian Agora still stands a Doric temple, long known as the Theseum (FIGURE 1). Both the temple and the terrace on which it stands have been studied by the American excavators

and have been shown to be sacred to Hephaistos. As we proceeded to clear away the little earth that overlay the rocky hill, square cuttings began to appear in the surface of the terrace to the south of the temple. They were pits, about three Greek feet square and deep, neatly aligned with the columns of the colonnade. We could make out two main rows, about five feet apart, with indications of other more shallow cuttings. These rows extended along the sides and back of the temple, leaving the east end open. From the temple roof as we looked down, the pattern was clear (FIGURE 2).

These cuttings were filled with earth; some of them had not been disturbed since antiquity. We dug them carefully, uncertain as to what we would find. We were surprised. In many of the cuttings, as much as nineteen inches below the ancient ground level, we found pots set neatly in the centre (FIGURE 3). Frankly puzzled, we pulled out the pots. They were plain, unglazed, rather coarse pots. We turned them over. In the bottom of each was a hole, cut on the wheel while the clay was still damp (FIGURE 4). They were nothing

but flower pots! Evidently the temple gardeners had practised "layering," as described by Cato in his treatise on agriculture. In order to help a new slip to take firm root the gardener pulls a branch through a pot,

then packs the pot with earth and ties it to the parent tree. After a year or so, when the branch has taken root, the gardener cuts off the shoot below the pot and sets the pot, cracked, deep down in the earth where he wishes the slip to grow. A cistern near the Temple of Hephaistos evidently provided the water to keep these nurslings alive.

Since we found no roots, we cannot say exactly what plants grew in this garden. But in view of the limited space, it must have been only small shrubs, such as myrtle, laurel, or possibly vines. We can restore two main rows, making four walks, laid out symmetrically much in the Egyptian manner. Probably smaller beds ran beside the walks and vines clambered up the precinct wall. This garden seems to have been laid out in the early Hellenistic period, and kept

up until the first century after Christ. To one looking westward from the Agora, this shady precinct might



Fig. 5. A model, showing the Temple of Hephaistos in its garden as it looked in the time of Augustus. Shrubs have been restored in the cuttings; other planting which probably existed has not been indicated. Agora Excavations photo.

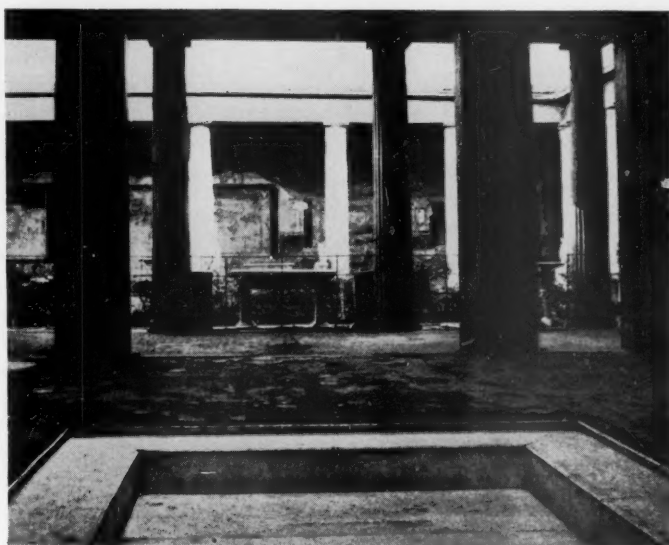


Fig. 6. Pompeii. The House of the Vettii as it appeared to the visitor on entering the building. In the foreground lies the impluvium of the dark atrium; in the background, the sunny peristyle formed an open-air sitting-room for the family. Photo: Nash, Roman Towns, plate 44.



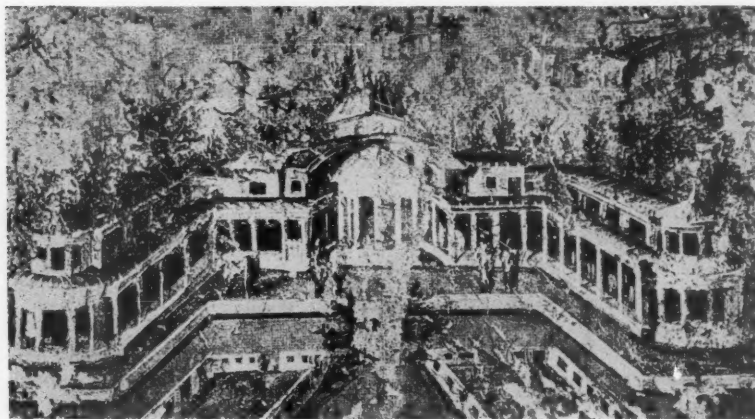
Fig. 7. The garden and peristyle of the House of the Vettii at Pompeii. It was laid out on an axial plan, watered by fountains and decorated with small beds of flowers, and with sculpture and furniture of marble. This sheltered yet sunny place could be used at almost any time of year. Anderson photo.

have reminded the imaginative of the Garden of the Hesperides, where Herakles had triumphed, as in the pediment of the temple just above (FIGURE 5).

Larger gardens and public parks were laid out in

their master's habit of strolling on the *peripatoi*, or garden paths. In his pragmatic way he could thus illustrate his points by reference to the plant and animal life about him. Here,

Fig. 8. Pompeii. A wall painting, showing a villa in a Roman resort. Two-storeyed colonnades flank the approach to a semicircular entrance. In the foreground lie fenced small gardens, planted with shrubs. Behind rises a hilly park covered with other colonnades and buildings. Photo: Rostovtzeff, Rome, plate XXIX.



the suburbs of Athens, outside the walls, but nothing suggests that they were very ambitious undertakings. They seem to have been pleasant areas, neatly planted, but not elaborate. The Academy was thus parked by Kimon; in later days, according to Greek custom, students set up housekeeping in the near-by grove of the Muses. Epicurus' famous garden, in contrast with the buildings in which we often teach aesthetics, was an appropriate setting for his creed of enjoyment. Plato's and Theophrastus' gardens, though begun as private parks, were soon overrun in the gregarious Greek way with followers and scholars. The gymnasia of the Lyceum and Cynosarges, fine preserves full of trees, were the scene for battles of the wits as well as for cavalry skirmishes. Aristotle's followers, indeed, got their nickname, the "Peripatetics," from their master's habit of strolling on the *peripatoi*, or garden paths. In his pragmatic way he could thus illustrate his points by reference to the plant and animal life about him. Here, rather than in a stuffy class-room, the students, invigorated by gentle activity in the open air, examined the universe—and found it good. Their philosophy may well have derived something of its sanity from the orderliness of the garden plan on which they walked. "Their ways were ways of pleasantness; and all their paths were peace."

IN THE BUSTLING HELLENISTIC world, more technical skill was lavished on horticulture. The Greeks wrote treatises on gardening. Cities, particularly in Sicily and Italy, boasted of splendid parks. Kings took up the craze. Attalos III of Pergamon, for instance, followed

the Persian custom of gardening himself—but he grew only drugs and poisons. Hieron II of Syracuse took his garden to sea with him. On a royal ship as luxurious as a modern liner, he built not only magnificent living-quarters, a bathroom, a library, a picture-gallery, and a stable, but also a *peripatos* under arbors cunningly contrived. Water was piped into garden beds along the decks and into large clay jars, which were filled with earth. White ivy and grape vines grown in these jars were trained to form arbors over the decks, surely a more agreeable shade than that produced by a flapping awning.

When the Romans became masters of the eastern Mediterranean, in the first century B.C., they brought back to once-austere Italy the arts of cooking and of landscape-gardening. Italy, more fertile than Greece, had always esteemed the blessings of Flora; as the country grew richer, homesteads were turned into villas. Despite the wail of the moralists that flowers were driving vegetables from the market, the tired businessmen of Rome spend weeks in their country-houses, rejoicing in the less productive aspects of rural life. Vergil often expresses their mood,

*"O, fortunatos nimum,
sua si bona norint, Agri-
colas—"*

but scarcely as a true "dirt farmer."

Many Roman gardens have been excavated, especially in that region which the eruption of Vesuvius in A.D. 79 covered and pre-



Fig. 9. Rome. A wall painting in the villa of the Empress Livia, showing a garden surrounded by a fence and broad paths. Flowers, fruits and trees were all drawn from memory or imagination but the effect is convincing and refreshing. Photo: Ant. Denk., I, plate 11.

served so effectively for us. The Italian excavators have developed a fine technique for identifying the plants that grew in these gardens. Where the ash hardened like concrete around the stems of the trees or shrubs,



Fig. 10. Pompeii. House of the Gilded Cupids. This garden was laid out on a circular plan focussed on a square water basin into which a fountain played.

it acted like a mould. When the living matter had rotted, a perfect impression was preserved. By pouring plaster into these cavities as they find them, the excavators obtain casts from which botanists are able to identify the plants. These the archaeologists replant so that to-day we see the gardens growing as they did 1900 years ago.

Let us take for example the garden in the well-known House of the Vettii in Pompeii, which is representative of the larger houses of the latest period of the city. As one entered the house through the front door, one looked across the water-basin of the atrium directly into the peristyle, or colonnaded garden. The

was a round marble basin; at the sides, oblong tanks. Water poured into the tanks from fountain figures that stood beside them, as for example, from the beaks of the ducks held by the boys shown in FIGURE 7. Thus the sound of splashing waters refreshed the ears of the family as they sat in adjacent rooms. This type of garden is the commonest in Pompeii; it is ever contracted and formal, tending to be very much like an open conservatory.

Much grander gardens were laid out by the richer Romans in their estates in the hills or beside the Bay of Naples. Pliny has described them vividly for us and we have found traces of them in various parts of Italy.



Fig. 11. Rome. Plan, showing the location of parks and gardens. The most important are labelled, but the site of many is unknown. Seventy of these parks were on record by the end of the Roman Empire. Plan after Lanciani, *Excav. of Rome*, fig. 150.

atrium, which served as an entrance hall, was dark and cool; beyond it the peristyle provided an inviting contrast of bright sunlight playing on the color of the shrubbery and flowers (FIGURE 6).

In the House of the Vettii, the peristyle was surrounded by a colonnade where the members of the family could stroll or sit protected from wind and sun. The area open to the sky was neatly bordered by low shrubs and flowers. In the mid part, stone tables and sculpture set a formal note. At each of the four corners

These huge estates were parked. Large rambling houses were characterized by wings set with colonnades, sometimes two stories in height (FIGURE 8). Thus the owner might face the sun, the woods, or the sea, according to his mood. Water was piped in from the hills, to trickle down cascades or to form lakes where they were desired. These lakes and streams were often named after places famous in literature, such as Nile, Peneus, or Canopus. Small theatres, music halls and baths, tennis courts and swimming-pools were strategi-

cally placed and guest-houses gave additional space and offered the owner a retreat when the servants at the festivals grew unbearably noisy.

The landscaping of these estates was treated on broad lines. The park proper was stocked with deer, game, pigeons, peacocks, and even nightingales. Planting was arranged to lead the eye from formality to natural growth, which was regarded as "almost" as beautiful. Planting was laid out in symmetrical compositions to lend an architectural background to pagements. Terraces were used in the Mesopotamian manner, to give vertical movement. Shrubs, rather than flowers, were favored, especially those, like box, that lent themselves to clipping into fantastic forms, such as a wild beast hunt or a sea fight. Paths were laid out, as Vergil recommends in the *Georgics*, in straight lines, like rows of soldiers, to give equal light and space to the plants.

Not only did the Romans enjoy landscape out-of-doors, but they brought it within their four walls. By ingenious perspectives they painted illusory parks and gardens in frescoes upon the walls of the city houses. The Empress Livia, wife of Augustus, treated the walls of a cool underground room, unbroken by windows, as an indoor garden. The effect of these paintings was much like that of our modern "picture-windows" that seem to bring the outside world into intimate relation with that within. Here the Empress could rest on a hot summer day, surrounded by a thick growth behind a woven fence (FIGURE 9). Realistic as this painting appears, it is not botanically accurate. A tree with citrus leaves bears on one side pomegranates, on the other, quinces. The poppies are violet. Here is a gracious fairy-land for the indulgence of dreams, doubtless sentimental, undisturbed by sound or insect.

Roman gardens, then, were really treated as *salons*. Those outside were developed as architectural settings, those inside as illusions of air and space, in same mood in which we use mirrors to-day. The house and garden were interwoven into a new, somewhat fantastic, architectural conception.

Not all these grand parks lay outside the city limits. Many began within Rome as the private pleasure-grounds of millionaires, but as taxation increased they were turned over to the state for the delight of the emperor and of the people. The names of seventy such

"Horti" are known by the end of the Roman empire (FIGURE 11). The earliest was laid out on the Pincian Hill in 60 B.C. by Lucullus, who was famous also for his feasts. These gardens were so fine that the Empress Messalina coveted them and committed murder to acquire them. But she received her due punishment, for she met her own death there.

Julius Caesar's great estate, which lay on the right bank of the Tiber, was the site of the house where he entertained Cleopatra in 44 B.C. He set a fashion by willing these gardens to the Roman people. Maecenas, the patron of Horace and the friend of Augustus, reclaimed a slum area for his park on the Esquiline. He filled in what had been an old graveyard where sorcerers used to rip up graves in order to find bones for the confection of love-potions. It was probably here that the first warm water swimming-pool in Rome was built.

But in extent none of these estates equalled that of the Emperor Nero, which reached from the Palatine to the Esquiline and was centered on an artificial lake that was later filled in to provide a site for the Flavian amphitheater. Here Nero built his gigantic palace, the Golden House, where he held rose-scented banquets beneath a revolving ceiling that showered roses upon his astonished guests. Tacitus praises the skill of the engineers who laid out in the midst of Rome fields, lakes, woods, and wide vistas. Even more interesting to lovers of Latin literature are the gardens of Clodia by the river. Here that infamous beauty, immortalized by Catullus as "Illa Lesbia, Lesbia illa" gave swimming parties over which Cicero shook his head, remarking, "Quot complexus, quot osculationes!"

When the Gauls sacked the villas and ruined the gardens of Rome, they did not entirely destroy the Italian passion for an ordered landscape. The mediæval cloister-gardens carried on the tradition of the peristyle. The Renaissance noblemen rediscovered the Roman conception of the park and attempted to outdo it. Whoever walks to-day in the estates of the great Renaissance villas of Rome or in their French or English imitations will appreciate that they are essentially classical creations. That Graeco-Roman gesture, which so graciously bade Nature submit to the ways of Man, held the art of landscape gardening under its spell down to the new conceptions of the present.

THE EPITAPH OF MARCIANUS

AN INSCRIBED TABLET IN THE VATICAN ILLUSTRATES the use of metrical epitaphs and funerary sculpture among the Romans.

The Romans and we agree in our common use of stone to mark burials. They tried various kinds of it—the local volcanic tufas, hard Apennine limestone, travertine from near Tibur—before discovering the best kind for the purpose of cutting inscriptions to be read. The tufas proved too soft and friable, the limestone too hard for good cutting, travertine too porous, but marble was found to be hard enough, but not too hard, and, when inscribed, perfectly legible (provided the surface was of a proper, uniform color). By the Augustan age the use of marble for inscriptions was in full swing all over Italy.

One advantage of dealing with Latin inscriptions over the study of Latin literature handed down in manuscript form is obvious—for the most part the inscriptions we are acquainted with have survived until present times intact. This means that we can study the original stones themselves, see them with our own eyes just as when they were inscribed 2000 years ago, and make copies and photographs of them. The correct, actual reading in such cases is therefore not a problem, except to the extent that observers differ in their accuracy.

The Vatican collections, in origin a manifestation of the surge of discovery and rediscovery called the Renaissance,

were the earliest of any size in Europe and grew from small beginnings to be among the greatest in the world. The germ of all the Vatican collections was the library, the origin of which is to be found in the 15th century; the museums and galleries date from the early 16th. The latter grew from a single statue, an "Apollo," discovered some time just before Columbus's discovery of America (where or how is not known), acquired by Cardinal GIULIANO DELLA ROVERE, and placed in his gardens. When he became POPE JULIUS II in 1503, he had the statue moved to the courtyard of the Belvedere Palace (built on the north spur of the Vatican hill by Innocent VIII, 1484-92), whence it was called the "Apollo Belvedere"; it became the most famous of all ancient representations of divinity in art and remained so until the discovery of the "Hermes" of Praxiteles at Olympia in 1877. It was soon joined by many others, including one which, 260 years later, was to serve LESSING as the starting-point for a classical discussion of the difference between poetry and the plastic arts—the "Laocoön," found in 1506.

One part of the Vatican collections consists of more than 3000 Latin (and a few Greek) pagan and early Christian inscriptions. Some of these are scattered among the sculptures, notably the Scipionic epitaphs and fragments of the records of the Arval Brethren, but most of them form the contents of the Lapidary Gallery.

This was the creation of several eighteenth-century popes, and especially of Pius VII (1800-1823) and the famous epigraphist GAETANO MARINI. The gallery is about 200 meters long, and most of the inscriptions are set in the walls, which are so high that it is difficult to read the highest texts from the floor, even with the help of the modern red paint (bane of epigraphists) used to pick out the letters. Attached to one of the panels of the east wall is the subject of this note. Let us look at it.

It is a small tablet marked by a sepulchral



inscription about a foot in width and 10½ inches from top to bottom and by a figure in low relief representing the deceased. It was found near the Appian Way just outside Rome. It is one of about 150 such inscriptions unearthed in his vineyard in 1817-1822 by an Italian named AMENDOLA; they belonged originally to a number of columbaria (large rectangular rooms, partly above and partly below ground, with their inner walls filled with horizontal rows of niches for urns holding the ashes of the deceased) along the Appian Way. This road was flanked on both sides by tombs and columbaria, both inside and outside the city walls, and many of them, in varying states

of preservation, are still visible. Our tablet was reported as found with the urn that had once (and perhaps still) contained the ashes of the deceased. Its date is A.D. 126 or 127.

The deceased was a boy, who is represented dressed in tunic and toga, with a *bullā* or amulet around his neck and a satchel for books at his feet. His arm gesture is in keeping with the fact that the text is in the first person: the boy is speaking to us from beyond the grave. Furthermore, he is speaking in dactylic hexameters, with a considerable number of errors though fewer than might be expected from a boy not yet seven. The text reads:

Hóc ego sum tumulo Marcianus redditus aevo.
Nón dum Persephonés spérábam visere régna.
Consulibus tunc natus eram iteróque Severo
et Fulvo pariter, quo coepi dulcis habéri.

5 Sextus ut excessit, coepi languescere in annum.
Apstulit ó saeva lux nona parentibus orta
planctibus heu miserae matris patrisque simitu.
Spēs mihi quam magna fuerat, si me mea
fata tulissent!

10 Musae mihi dederant puero facundus ut essem.
Invidit Lachesis, Clothó me saeva necavit,
tertia nec passa est pietate rependere matri.
Quam pié, quam crébré venit Sacra Via tota,
flevit et immensa turba funusque secuta!

15 Dixerunt férale diem stationibus atris,
quod tenerae aetati spes fallax apstulit annos.
Nec nón omnigena passim vicinia venit,
ut mecum florem fato moriente viderent.

Tu reddas, aeternae, piis solacia semper
20 et vitam serves cunctis generisque piorum.

"In this tomb am I, Marcianus, for eternity.
Not yet was I expecting to behold the realms of
Proserpina. I was born in the consulship of
Severus (his second) and Fulvus, and from the
start was held sweet. When the sixth year passed,
I began to fail in health. Oh the cruel ninth day
that dawned for my parents and took me from the
lamentations of my poor mother and father! How
great had been my expectations, had the fates per-
mitted! The Muses had given me, a boy, the gift of
eloquence. Lachesis envied, cruel Clotho slew me,
nor did the third Fate allow me to repay a mother's
devotion. How dutifully, in what crowds came
the whole Sacred Way, as the vast throng wept and
attended the funeral! They called it 'a day of the
dead' with its solemn gatherings, because one so
young was robbed of his years by deceitful hope.
The whole neighborhood came, too, from all sides
to see in me the flower dying by fate. Do thou, oh
everlasting one, always give comfort to the good,
guard all their lives, and continue to father them!"

—ARTHUR E. GORDON

NOTES

While the writing space is not perfectly rectangular, the lettering is done in straight lines, the letters within each line maintaining a quite uniform height. The letters of the first lines are 10 mm. (about 3/8 inch) tall, of the last lines 8 mm. (about 5/16 inch); this decrease of 2 mm. from top to bottom is accomplished by degrees. Faint guiding lines to help secure the straight and even character of the writing can still be seen here and there, even in the squeeze. The letters are cut out with precision and with consistency in depth and breadth; the cutting is sure and clean, with attention to shading and carefully made serifs or final strokes. The letters are "capital" (to use our term for similar letter-shapes in English), and there are no odd shapes. The general workmanship of the stone-cutter is excellent in every respect.

On the Vatican collections, see most recently BARTOLOMEO NOGARA, *Origine e sviluppo dei Musei e Gallerie Pontificie, brevi appunti* (Rome 1948); *Guida breve generale ai musei e alle gallerie di pittura del Vaticano, del Laterano e della Biblioteca Vaticana* (Vatican City 1948); on the Lapidary Gallery, ORAZIO MARUCCI, *Guida speciale della Galleria Lapidaria del Museo Vaticano* (Rome 1912), as well as NOGARA. The inscription is published in CIL VI 2 (Berlin 1882), no. 7578, and in BUECHELER's *Carmina Latina epigraphica*, I (Leipzig 1895), no. 422. A special publication of all the Latin and Greek inscriptions of the Vatican is contemplated, and perhaps in preparation, by Drs. FILIPPO MAGI and ENRICO JOSI, members of the staff of the Vatican and Lateran Museums.—Lines 3-4, L. Catilius Severus (for the second time, *itero*; cf. *primo*, *secundo*, etc.) and T. Aurelius Fulvus (the later

emperor Antoninus Pius) were consuls in 120. Line 4, if I am right in punctuating "*pariter, quo*" (with BUECHELER and others), then *quo* = *ubi* or *cum*, as elsewhere ("late Latin," SCHMALZ-HOFMANN). Line 8, *spes quam magna fuit* would have solved the problem of scansion; likewise *musae mi* in 10. Line 12, *tertia*, supply *Parca*; *rependerem* is required, as similarly *feralem* in 15 and *morientem* in 18. Line 13, *Sacra Via tota*, nominative, though *Sacra* is here spondaic. Line 14, *immensa turba*, also nominative despite the long *a*'s. Line 20, *generisque*, parallel with *cunctis* and so a mistake for *generique*? or a mistake for *generesque* and so parallel with *serves*? I have translated in the latter sense.—There are 17 accent-like apices, two over *a*, one over *i*, the rest over *e* and *o*; there is only one tall *i* (line 19, *piis*). Thus not all the long vowels are marked in either way.

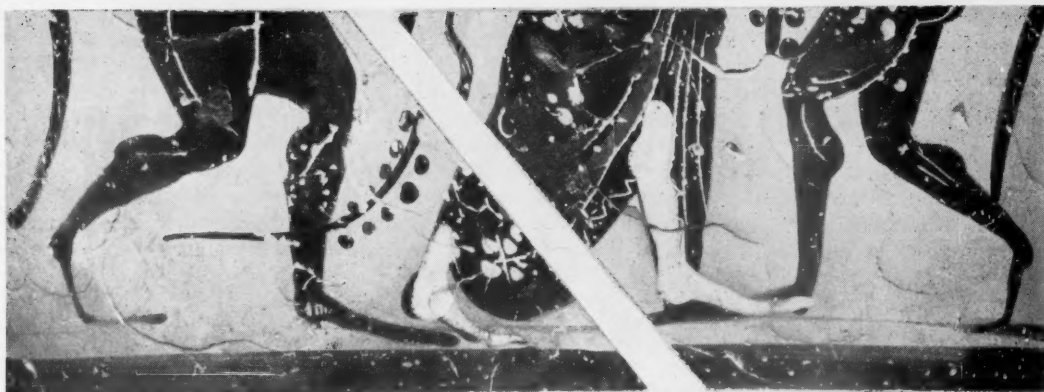


Fig. 1a

Fig. 1b

"MODERN" DRAWING ON GREEK VASES

By Dorothy Kent Hill
Photographs by Sherley Hobbs

*Reproduced by courtesy of
the Walters Art Gallery*

OUR CONTEMPORARY ART is interpretive rather than realistic. By devious manipulation of lines and colors the artist of today tries to tell more than nature. His distortion, his manipulation of lines in an unnatural manner for the sake of emphasizing a point, is imitated by the ignorant, and then there results mere bad drawing. For the distortion by the true artist is

planned and deliberate; the distortion by the imitator is random and meaningless.

Greek vase painters knew about effective distortion. Besides the familiar severe styles and fine styles one can recognize certain distorted styles. The examples illustrated here are not all contemporary; in fact, they spread over more than a century (500-400 B.C., and some years before and after). Each technique, the black-figure and the red-figure which followed it, encouraged the development of particular distorted styles.

A trick which was all the rage among painters of black-figure vases in Athens just before and after 500 B.C. was to lengthen hands and feet to an extreme. The subjects so treated were frequently dancers who were supposed to be executing rhythmic motions. The extra length of their extremities imparts a look of motion which could not be conveyed by rendering to scale. FIGURES 1a and 1b come from the same vase scene, in which satyrs and maenads dance in pairs. (The maenads have white feet, the satyrs, black.) A further development was to render fingers and toes as great blobs, suggesting that fingers and toes are rippling with speed, like the hands of our maenad in FIGURE 2.

Exaggeration of the length of the most active parts



Fig. 2



Fig. 3

of the bodies lends strength to battle scenes, also. In FIGURE 3 we see a warrior sliding for safety, with his leg lengthened and his foot foreshortened; in FIGURE 4 there is a similar lengthening of leg of the warrior who struggles with the goddess Athena, and a tremendous exaggeration of the length of the aegis-covered divine arm which she extends toward her opponent.

In this same school, the school of long feet and hands, mitten fingers, and long aegises, it was customary to draw the human rear, as seen in profile, with rather alarming frankness. FIGURE 5, a dancer with clappers, is typical. Later artists, those who worked in red-figure after it had realized its full possibilities, practiced still more daring distortion. In FIGURE 6 we see a rear profile drawn in one continuous line, with the protrusions minimized; the forearm is even ridiculously short. A realist, whether Greek or American, might say that a three-quarter view had been attempted by an artist whose knowledge of foreshortening was hazy, but a pro-modern critic would discern a remarkable abstraction of the human body. He would also admire the effective pattern line which expresses the flow of the drapery across the chest and the construction of armpit, elbow and wrist as delicately suggested by the drapery lines; most of all, he would point out that the elbow and wrist are not located where nature intended them to be. The economical use of line would remind him of PICASSO.



Fig. 4

Fig. 5





Fig. 6

In FIGURE 7, a reclining banqueter whose collar-bone bears no relation to his chest and whose arms are of disparate lengths, other "modern" characteristics are observable. Bad fore-shortening or good interpretive drawing? Certainly, if one wished to convey the impression of spoiled, fat, lazy youth it would be hard to surpass this mode of drawing. Picasso again!

The authors of the scenes of FIGURES 6 and 7 bounded "their red fig-

ures" with firm, sure lines. They were Athenians.

FIGURE 8 is by a South Italian who was more original in his use of the inherited technique. His dancing satyr is not rigid in any way. Not only is he distorted as to lengths of arms and legs and the position of his tail, which appears to emerge from high up on his back, but, moreover, the outline is shaky and dilute glaze has run onto the figure, carrying the impression that the figure is moving too fast for one's eye to catch the outline. May we suggest a comparison with the ballet dancers of DEGAS and RENOIR?

One general admission must be made. There is no distortion at the

Fig. 7

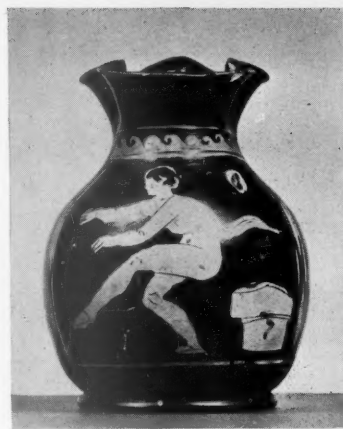


Fig. 8

very beginning of either black-figured or red-figured painting. Our black-figured examples date from the age when their technique was old and the red-figured was new; in the new red-figured, drawing was still at its most precise. The relatively late date of all our examples might be taken as a sign of degeneracy, and the judgment of posterity has condemned the majority of vases with distorted drawing to languish unloved in store-rooms. On the other hand, an enthusiast for modern art might reply that experience with a technique is necessary before artists can achieve true freedom. It is, I think, no accident that two of our examples (FIGURES 5 and 8) are taken from vases formerly in the collection of a student of modern painting.

NOTE. Some of our vases have been broken and repaired and in some cases repairs have been slightly retouched. Photographs 1a and 1b have been retouched, too. The extraordinary pattern of a wavy line bordered by two rows of dots occurs several times. It is the pattern of vine or ivy sprays, appropriate in orgiastic scenes, quite meaningless in battles.—D.K.H.

GEOLOGICAL TABLE

EUGENE S. RICHARDSON, curator of invertebrate fossils at the Chicago Natural History Museum, has prepared a revised tabulation of the generally recognized geological eras and periods, which was published in the September, 1950, number of the *Chicago Natural History Museum Bulletin* (Volume 21, No. 9). With his and the *Bulletin's* generous permission we print in this place an adaptation of it, our principal modification having been to reverse the order so that the contemporary era is at the top and the oldest at the bottom, as it would be if any digger ever came upon a dream site so fantastically improbable as to include all the periods in regular stratification. Your teacher-editor intends to paste it in the flyleaf of his history textbooks as a prophylactic against student questioning and as a recurring reminder that the span of recorded history is really very brief.

Time Division	Began years ago	Named for type area
CENOZOIC ERA (era of "recent life")		
QUATERNARY PERIOD	1,000,000	
Recent epoch		
Pleistocene epoch		
TERTIARY PERIOD	75,000,000	
Pliocene epoch		
Miocene epoch		
Oligocene epoch		
Eocene epoch		
Paleocene epoch		
MESOZOIC ERA (era of "middle life")		
CRETACEOUS PERIOD	110,000,000	Chalk cliffs, Dover (L. creta 'chalk')
JURASSIC PERIOD	175,000,000	Jura Mts., French-Swiss border
TRIASSIC PERIOD	200,000,000	Three (tri-) conspicuous beds of rock in Germany
PALEOZOIC ERA (era of "ancient life")		
PERMIAN PERIOD	240,000,000	Perm Province, Russia
PENNSYLVANIAN PERIOD	280,000,000	Western Pennsylvania
MISSISSIPPIAN PERIOD	310,000,000	Mississippi River Valley
DEVONIAN PERIOD	350,000,000	Devonshire, England
SILURIAN PERIOD	380,000,000	Territory of the ancient Silures, Shropshire, England
ORDOVICIAN PERIOD	450,000,000	Territory of the ancient Ordovices, Wales
CAMBRIAN PERIOD	540,000,000	Cambria, ancient name of Wales
ALGONKIAN ERA	1,500,000,000	Territory of Algonkian Indians, central Canada
ARCHAEAN ERA	3,000,000,000	

THE NEWPORT TOWER A REPLY TO MR. POHL

IN THE ISSUE OF *ARCHAEOLOGY* FOR AUTUMN, 1950 (Volume 3, No. 3, pages 183-184), Mr. FREDERICK J. POHL raised several objections to the preliminary excavation report which I had presented in the Summer, 1950, issue. I would like to thank Mr. POHL for giving me this opportunity to clarify certain points which were apparently not clear in my original article.

Mr. POHL's first concern is over the location of the excavations. PHILIP AINSWORTH MEANS (*Newport Tower*, New York 1942) proposed eight radial trenches from the columns to discover the supports for a supposed ambulatory. He in no way denied the possibility of success of digging under the Tower itself, and he only held out (page 304) a 35% chance that any Norse find would be made. This course of action was originally contemplated by us, but had to be given up. The Tower is now surrounded by a protective iron fence, set in heavy granite supports, outside of which is a concrete path nine and a half feet wide. Permission was not granted to destroy the path, nor to remove the fence, although the latter course would have been futile: the setting of the granite supports would have undoubtedly destroyed any traces of previous digging.

As for excavation outside the Tower area, Mr. Pohl has apparently overlooked my report of the first Newport Tower excavation (*ARCHAEOLOGY*, Volume 2, No. 3, Autumn, 1949). In this report I illustrated (figure 2, page 147) the seventy-eight foot trench which was dug that year. This revealed that the soil in the park

had been thoroughly disturbed when the area was originally laid out in 1855. On the other hand, our 1948 excavation did indicate that a considerable portion of the earth within the iron fence had not been disturbed, so that the 1949 season concentrated in this area.

Mr. POHL did me the honor to visit the excavation in 1948, and at that time I discussed with him the disturbance of the park outside the iron fence, and the

fact that the area covered by the path did not show signs of being productive. The path has a heavy foundation of crushed granite, and the ground beneath this foundation in the one section which we were permitted to destroy showed no traces of human occupation: the path builders had scraped the soil to a depth sufficient to remove all remains. It can thus be seen that our excavations were concentrated in the one area which showed the best signs of yielding the results for which we were seeking.

Mr. POHL's second concern is my find of the pipe stem "under" Column 3. He apparently did not understand the extent of the trench which I had made against the inside face of this column before reaching my hand "under" it. This trench was 23 inches wide, 41 inches deep, and 7 feet 6 inches long, and it completely exposed the foundation stones to their full depth (see the photograph). The pipestem was extracted from the space above the un-

mortared foundation stones, but under the lowest mortared stone of the column itself. The area from which the pipestem came had originally been filled with the plaster "cap" to the foundation stones on



The Newport Tower. East end of trench DE, against the inside face of the east column (No. 3). The drum of the column was plastered above point "A." The author was able to insert his arm more than eighteen inches into a hole just under this level. "B" is the bottom of the lowest stone on the inside edge of this column.

which the column was built, but the plaster had in part crumbled away. The reach of my forearm extended to very near the center of the base of the column, and I was able to excavate in the crumbled plaster a cavity almost a foot wide. It was from this area that the pipestem came, and there is no possibility that it could have been tamped in at the time of "refilling of some exploratory excavation, of which, incidentally, there was absolutely no sign.

Mr. POHL quotes BENSON LOSSING's story of excavation by Governor GIBBS in the early part of the nineteenth century. Serious doubt is cast on this report by several of our findings: 1) We excavated, in 1948 and 1949, over 80% of the area inside the iron fence and examined, with two minor exceptions, all sides of the bases of all the columns. No sign of excavation to the base of any column was found, nor any trace of excavation of the magnitude suggested by Governor GIBBS' story. 2) Soil in the area is 18 inches deep (not four feet), and rests on a layer of heavy clay (not hard rock), which goes down at least six feet (not four feet) in the center of the Tower. In 1948 we encountered bedrock (with a rather crumbling surface) at 7 feet 6 inches from the surface. 3) The foundations of the Tower do not rest on "... rough-hewn spheres of stone, the lower ones about four feet in circumference" (LOSSING, B. J., *Pictorial Field-Book of the Revolution*, 1855, I, page 632), but on un-hewn, random-shaped boulders, tumbled rather haphazardly into the construction trench and topped with a plaster cap on which the columns were built. Many of the boulders are considerably greater than 4 feet in circumference; in fact, some of the largest stones of the Tower were hidden in the underground construction, in contrast to Norse practice in Greenland, Iceland, etc. Finally, 4) the columns do not "rest upon bedrock," but only on clay. Such striking discrepancies detract seriously from the value of LOSSING's evidence.

Mr. POHL offers two alternative theories to account for the boot-heel impression which we found in 1949: one that it dates from pre-Columbian times and the other that it dates from the nineteenth century. The second can be ruled out: there was absolutely no sign of disturbance over the footprint, and the construction trench fill was untouched and continuous without a break to the foundation stones of Column 3. The first theory likewise cannot be supported, for under the footprint we found two small fragments of a clay pipe, a nail, and a small piece of glass.

Mr. POHL states that some of the construction trench fill dates from the nineteenth century. For this there is absolutely no evidence. Some of the excavations in and around the Tower are undoubtedly of nineteenth century date, and refilled with nineteenth

century material, but wherever the construction trench is intact it is identifiable and clearly contemporary with the Tower foundations.

It must be emphasized that eighteenth and nineteenth century fill, wherever found, contains a considerable quantity of loam and is dark brown in color, while the construction trench fill is yellow-olive in color and of a clayey consistency. Pits dug by treasure hunters are thus easy to identify. Colonial pottery in undisturbed construction trench fill thus dates the Tower, for as I have explained in my previous reports, the trench had to be filled in to hold the foundation stones in place before the building was started.

It is true, as Mr. POHL states, that the establishment of proof requires that every possible alternative be examined and tested before it is rejected or accepted. It is likewise true, however, that no chain (of theory) is stronger than its weakest link (of proof). Before the excavations were made, the weight of theoretical evidence seemed to lean toward the Norse theory of the Tower's origin, although even Mr. MEANS gave the Tower a ten to fifty chance that it was Colonial. In the course of the excavation I was skeptical of each individual find, testing and retesting my levels and locations to make sure there was no chance of an accident. One, two, or even three objects could be ruled out as digging mistakes, result of animal burrows (of which, however, we found no sign) or just misinterpretations of the evidence.

However, when finds consistently point in one direction, when they become daily more numerous, and when they are of a nature and location which precludes the errors mentioned above, it is necessary to reexamine and reweigh the theoretical evidence which originally favored the Norse theory. Much of this pro-Norse evidence is extremely tenuous, and all is subject to more than one interpretation. Vague historical suppositions and elaborately reasoned theoretical abstractions, complicated theories derived from omissions in the record as well as blind acceptance and magnification of every hint and questionable suggestion, cannot merit equal weight with concrete archaeological evidence, especially when these circuitous reasonings can be (and have been) strongly questioned on a theoretical level alone.

In my preliminary reports the material which I presented was naturally brief, and only the most significant and incontrovertible finds were mentioned. In my final report, which is now in preparation, I hope to present dating evidence of such conclusiveness that researchers will turn from the dating problem and concentrate on the problem which is still unresolved: the source of the architectural inspiration.

University of Chicago

WILLIAM S. GODFREY, JR.



ARCHAEOLOGICAL NEWS

Erratum

In Mrs. ALEXANDER's article on *The Symbolism of Christianity*, *ARCHAEOLOGY* 4.242-247, in the legend to FIGURE 9 on page 246, a typographical error for which the editor is responsible assigned the Theodoulos mosaic to the third century A.D. The correct century is the sixth.

Inversion

In the September, 1950, issue of *ARCHAEOLOGY* (Volume 3, No. 3), a fantasy spun by our otherwise infallible printer turned the great air view of Dura which formed the center spread (pages 160-161) upside down. With this should be enjoyed the last sentence on page 159. Corrected center folds were run off for those who bind their volumes and these have been mailed automatically to all institutional subscribers.

Individual subscribers who wish corrected center folds may obtain them by writing the editor at 100 Washington Square, East, New York 3, N. Y.

Carbon 14

Newly reported results of the application of the Carbon¹⁴ method of dating archaeological objects include the following. Since these have not been in every case officially confirmed, they should be used with caution:

- 1) The Dead Sea Scrolls, earliest Hebrew manuscripts: 1917 ± 200 years old.
- 2) Paleo-Eskimo house 7, Cape Denbigh, Alaska: 2016 ± 250 years.
- 3) Temples of Monte Alban, Oaxaca, southern Mexico: $c. 2550$ years old.
- 3bis) Mummy no. 49, from Paracas, Peru: 2257 ± 200 years old.
- 4) Chiricahua stage of the Cochise culture, western New Mexico: $c. 4000$ years old.
- 5) The Boylston Street Fishweir, Boston: about 5000 years old.

6) Three Indian hearths at the Lamoka Lake site, New York, yielded charcoal samples, $c. 5000$ years old.

7) Trail Creek, Alaska, "one of HELGE LARSEN's cave excavations on Seward Peninsula": 5995 ± 230 years old.

8) Jarmo, late Stone Age (?) site in Iraq, under excavation by an Oriental Institute expedition directed by ROBERT J. BRAIDWOOD, yielded snail shells 6707 ± 320 years old.

8bis) Charcoal from the Angostura reservoir, southwestern South Dakota: 7715 ± 740 years old (see above, pages 29 and 31).

9) Animal bones associated with human bones and artifacts at the tip of South America: $c. 8500$ years old.

10) Woven rope sandals from an Oregon cave: $c. 9000$ years old.

10bis) Charcoal from Lime Creek, western Nebraska: 9524 ± 450 years old (see above, page 29).

11) Folsom Man, maker of distinctive stone spear points in a wide area of the western U.S.: 9900 ± 350 years.

12) The dung of a giant sloth from Gypsum Cave, Las Vegas, Nevada: about 10,500 years old.

12bis) Tepexpan man, HELMUT DE TERRA's discovery near Mexico city: $c. 11,000$ years old.

13) Melting of last great ice cap in northern Wisconsin: $c. 11,000$ years ago (see *ARCHAEOLOGICAL NEWSLETTER* 16.126).

14) Charcoal from the Lascaux cave (stone age paintings), Montignac, Dordogne, France: 15516 ± 900 years.

15) EDMUND W. SINNOTT, director of Yale's Division of the Sciences, announced a grant of \$42,500 from the Rockefeller Foundation, with which Yale scientists and historians will set up a Geochron-

ometric Laboratory in which they will test samples of ancient materials by Geiger counters for their C¹⁴ content, which in turn will yield their approximate dates. A seven-man advisory board, which includes RICHARD F. FLINT, geologist, WENDELL C. BENNETT, anthropologist, and GEORGE A. KUBLER, historian of art, will supervise the operation of the laboratory.

- 16) The physical principles and the processes by which the radioactive carbon, in ancient remains containing carbon (remains of plants and animals and products made from them), is made to reveal their date, are explained by DONALD COLLIER in an admirably lucid and succinct article in the *Chicago Natural History Museum Bulletin*, Volume 22, No. 1 (January, 1951), pages 6-7.

Mediaeval Academy

The twenty-sixth annual meeting of the Mediaeval Academy of America will be held at Dumbarton Oaks, 3101 R Street, N.W., Washington, D. C., on April 24 and 25, 1951.

Dumbarton Oaks Symposium

The annual symposium of the Dumbarton Oaks Research Library, in Washington, D. C., will be held on April 26 to 28, 1951, and will be concerned with problems of mediaeval iconography.

Petrikovitz Letter

A letter from HARALD VON PETRIKOVITZ of the Reinisches Landesmuseum, Bonn, to HUGH HENCKEN, president of the *ARCHAEOLOGICAL INSTITUTE OF AMERICA*, contains much of interest to archaeologists. With the permission of the author and the addressee, we transcribe it in full. The translation was made by FRANCIS J. TSCHAN of Pennsylvania State College.

Bonn, 9.I.51

Dear Mr. Hencken:

I was delighted to receive your excellent work on an Irish royal seat of early times. It is of interest not only to me but also to another of our specialists in Merovingian archaeology, Dr. Kurt Böhner, who will probably apprise you before long of sundry items pertaining to the "finds" pictured in your book.

I had a great deal to do in the course of the last few months. Besides working up a more comprehensive inventory of what has been found of the [Roman] imperial period, I have been very busy catching up with the archaeological literature of the last twelve years. What with the war and the time I spent as a prisoner of the Russians, I have had no opportunity to read the scientific literature published since the year 1939. Then, too, I have this winter semester been giving for the first time lectures on the provincial Roman culture of northwestern Europe. I have, moreover, made a number of short trips in Germany and to Holland. My personal correspondence, therefore, has piled up altogether too high. I hope, however, that you will not take ill my belated best wishes for the new year. Those wishes are fraught with the hope of great success to you.

German research in prehistoric and early historic and Roman provincial archaeology is gradually recovering from the ravages of the war. The greater part of our own museum was opened again in July. The *Bonner Jahrbücher* are again appearing regularly. The first number will be off the press shortly. From now on, furthermore, we shall issue *Beihefte*. Of these supplementary volumes the first will be Dr. Gose's work on Roman provincial ceramic types and the second will be my *Struktur der römerzeitlichen Keramik der Provinz Germania inferior*. I think my study of the colonization of the Xanten area will be completed by the end of 1951. However, I do not as yet know how we are going to finance the printing of this book with its many tables and plans.

Excavations of the camp of the Roman legion in Bonn have also been carried on by our museum this past year. E. Neuffer, the director of the Landesmuseum, is going to bring out a comprehensive account of the results thus far obtained by the investigations into this legionary camp here in Bonn. Dr. Böhner, whom I have already mentioned, is working on a great catalog of all the Frankish finds in the old Rhinish province. Then, too, we have begun the study of the early mediaeval Carol-

ingian *Motten*, a particular type of early fortification.

Very good new archaeological discoveries were made in Trier in the course of last year. The excavation of the early Christian cathedral under that of today yielded especially handsome results. Revealed was the fact that the early cathedral had been built over a palace of the early Constantinian period. The ceiling friezes of this early Constantinian palace could be restored from the thousands of fragments found. They brought to light sensational portraits of the empress-mother Helena and others belonging to the court. Very interesting, too, is the early Christian church building—a double church with a big atrium, a bema, and the very large *piscina* [basin] of a baptistry between the two churches.

The finding of a mosaic in Trier threw unexpected light on the hold paganism still had about 400 A.D. or after. For stylistic reasons, and above all because of the fashions shown in the clothing, this mosaic is to be put in a class with that of Santa Maria Maggiore (432 A.D.). The mosaic at Trier shows a sacrificial ceremony in three phases and the manifestation of the mystery in the Leda Mysteries. There are, moreover, represented in medallions about the mosaic attendants at the sacrifice, persons belonging to the most prominent families of Trier, probably always a father and son. This new "find" is to be published in the next issue of the *Trierer Zeitschrift* and will certainly arouse a great stir in scientific circles.

In Köln, exceptionally hard hit by the war, several excavation projects have been carried out and others are in progress or planned. The history of the cathedral has been cleared up from Frankish times to the present by excavations made on the site. The older strata contain Roman buildings. The church of St. Gereon was excavated by Professor von Gerkan, formerly the director of the *Deutsche Archäologische Institut* in Rome. It became evident that that church dates back into the fourth century after Christ in its present structural form. The church of St. Severin also yielded new archaeological finds. Excavations undertaken there even before the last war laid bare late Roman and Frankish graves. The latter church evolved from a *cella memoriae* [memorial oratory] over the tomb of a saint. Finally, an enormous bath was recently cut into in the Neumarkt and was further exposed by excavations. This bath appears to antedate even the time of the founding of the Roman

Colonia Claudia Ara Agrippinensium (50 A.D.).

Mainz has little money; consequently archaeological work is handicapped in that city. Nevertheless three temporary Roman camps were unearthed there. They were of the time of Caligula (37-41) and yielded valuable finds. An art historian is also at work digging in the collegiate church next to the cathedral. His excavations appear to be bringing to light a late Roman predecessor for this church.

The senseless and unnatural division of Germany has seriously interfered with cooperation in research. The Archaeological Institute in Berlin is as yet without an adequate foundation. The Römisch-Germanische Kommission in Frankfurt/Main is still being kept up from Land Hessen. In spite of all, the *Jahrbuch* of the Institute still appears as well as a kind of continuation of the *Römische Mitteilungen* and the *Germania* in its former compass.

You see, therefore, that it will soon pay you to make another trip to Bonn.

With cordial greetings and good wishes, I am

Yours,
H. V. PETRIKOVITZ

IEJ

Volume 1, No. 1, of the illustrated *Israel Exploration Journal* has reached our desk. It is edited by A. REIFENBERG, historian of art, veteran of three wars, and professor of soils at Hebrew University, and contains the following five articles: M. STEKELIS, 'A New Neolithic Industry: The Yarmukian of Palestine'; A. REIFENBERG, 'Caesarea, A Study in the Decline of a Town'; M. RIM, 'Sand and Soil in the Coastal Plain of Israel. A Study of the Rate of Accumulation'; M. SCHWABE, 'A Jewish Sepulchral Inscription from Caesarea Palaestinae'; M. AVI-YONAH, 'The Development of the Roman Road System in Palestine.' The business address of IEJ is P. O. Box 1406, Jerusalem, Israel; the annual subscription is 2 Israel pounds or \$6.00. Articles submitted for editorial consideration should be addressed to Professor REIFENBERG at Hebrew University, Jerusalem, Israel. We wish this sturdy youngster great success.

From IEJ we also infer the forthcoming publication of Volume 1 of another new journal, the *Annual of the Jewish Palestine Exploration Society*.



Schaefer Collection of Ancient Glass

The Schaefer Collection, recently presented to the Newark Museum, includes such pieces as those illustrated above: (Left) Necklace of gold and glass. The provenience is not recorded and the stylistic antecedents of the motifs of flying birds in facing pairs and masks are not immediately apparent. Most observers would agree that the character of the masks is not Mediterranean. (Upper right) Two inscribed glass tumblers. The one on the left, of clear greenish glass, is inscribed with the words "Enter and take the victory"; the other, of amber glass, has "Take the victory." (Center) A glass cup made by Ennion, inscribed with the maker's name. (Right) A glass jug with impressed design.

Schaefer Collection

The Eugene L. Schaefer Collection of classical antiquities, which includes some of the finest ancient glass objects in the country, has been presented to the Newark Museum by Mr. SCHAEFER'S widow, Mrs. EUGENE L. SCHAEFER of Englewood, New Jersey, as a memorial to her late husband, and will be shown in a special exhibition at the museum in March.

Mr. SCHAEFER started his collection as a boy of 13, when he was attending school in Stuttgart, Germany. He became interested in ancient art through his teachers, and as his first acquisition he purchased an Egyptian figurine. In 1895 he came to the United States to be associated with his brother, Dr. LOUIS SCHAEFER, a chemist, who had established the Schaefer Alkaloid Works, which later became the Maywood Chemical Works. Several trips to Europe and the East gave Mr. SCHAEFER

opportunities to acquire antiquities. In 1920, while visiting Germany, he met Dr. GOESSLER, Director of the Württembergisches Landeskonservatorium, and Mr. HERMANN BALZ, an engineer who had gathered together a unique collection of ancient glass. On the recommendation of Dr. GOESSLER, Mr. SCHAEFER purchased Mr. BALZ' material, thus expanding his own earlier group of specimens into a substantial collection.

In addition to his collection of glass, bronzes, ceramics, and jewelry, Mr. SCHAEFER built up a library of related books, catalogues and photographs, and added to his home in Englewood a small museum to house them. The collection includes glass objects illustrating almost all the shapes and techniques used in antiquity, and ranging from eighteenth dynasty Egyptian jars to Merovingian drinking vessels. Besides blown vessels of every description, there

are many handsome core-wound vases, a remarkable group of mosaic plaques showing faces, birds and various types of patterns, millefiori bowls, and a number of polygonal glasses with impressed patterns of religious symbols, including one of the rare type with abstract heads on two of its faces.

Among many fine examples of mould-blown glass are three inscribed pieces of special interest: an amber tumbler with the inscription "Take the victory," another of clear, greenish glass with the words "Enter and take the victory," and a delicate light blue cup, which originally had two handles, from the famous workshop of Ennion, inscribed "Ennion epoiei." The sumptuous gold necklace with glass beads and insets, reproduced above, is the most spectacular of the pieces of fine gold work acquired by Mr. SCHAEFER to illustrate the use of glass in ancient jewelry.

A few other mould-blown glasses with delicate patterns in the collection may be tentatively ascribed to the workshop of Ennion on the basis of style, although they are not inscribed.

—ELSBETH DUSENBERY

Landmark

HARRY L. LEVY of Hunter College, editor of *Classical Weekly*, has announced that a double (32-page) number of *CW*, devoted to a dual review (STERLING DOW, Introduction and Greek articles; ARTHUR STANLEY PEASE, Latin articles) of the *Oxford Classical Dictionary*, will appear on April 9. For separate copies of this issue send 25c in stamps to Professor H. L. LEVY, Hunter College, Bronx Buildings, Bronx 63, N. Y.

Travelers

University Museum shovelmen are far-flung this spring: LINTON SATERTHWAITHE is back in British Honduras; RODNEY S. YOUNG is back at Gordion in Anatolia, planning to start digging about April 2; CARLETON S. COON is back in Iran, digging more palaeolithic caves; GEORGE H. MCFADDEN is back in Cyprus, continuing the excavations at Kourion; and Associate Editor J. ALDEN ("CHIEF") MASON is in Chihuahua, Mexico, making linguistic researches on the Northern Tepehuan Indians.

Anaktuvuk Find

ROBERT J. HACKMAN of the U. S. Geological Survey made an important discovery last summer of chipped stone artifacts, including a fragment of a Folsom point, under ten inches of soil at a palaeolithic station near the northern entrance of Anaktuvuk Pass, the natural prehistoric migration route through the Brooks Range. The artifacts, similar to the flint culture discovered two years ago at Cape Denbigh, Norton Sound, by J. L. GIDDINGS, have been turned over to the Smithsonian Institution, which announced the find. Another Geological Survey worker, MILTON C. LACHENBRUCH, found two more Folsom points near the headwaters of the Noatak river, in northwestern Alaska.

Cornwallis Island

A second summer of excavations at four abandoned village sites near Resolute Bay on desolate Cornwallis Island in the Canadian Arctic, by HENRY B. COLLINS, JR., of the Smithsonian Institution, and WILLIAM E. TAYLOR of the University of Toronto, represent-

ing the National Museum of Canada, Ottawa, produced some of the richest Thule Eskimo deposits yet uncovered, with fragments of clothing, weapons, and food deposits. "Among the houses excavated was that of an ancient Eskimo who must have been not only quite a prominent citizen but an unusually large man. The house was exceptionally large and apparently had been abandoned in a hurry, perhaps in some ancient Arctic catastrophe. Stone compartments built into the floor were found filled with whale blubber, presumably intended as a winter food supply. Some of the implements, including a whaling harpoon head, were exceptionally large. It must have required extraordinary physical strength to hurl this so that it would penetrate a whale's thick skin. There was also a remarkable amulet—a circular skin thong around which were attached small pouches containing various magical articles, such as pebbles and bones. Suspended from the center was the head of a large sea bird. Presumably the hunter wore this around his neck as a charm to insure success in whaling."

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BRIEF NOTICES OF RECENT BOOKS

Classical Indian Sculpture, by CHINTAMONI KAR. vi, 38 pages, 64 plates. Alec Tiranti, London 1950 6s.

Fortunately for those looking for general information on Indian art the most recent book of the Chapters in Art series deals with Indian sculpture from the Maurya through the Gupta periods. The eighty-six illustrations were selected "chiefly because of their sculptural qualities" and were well chosen from such rich collections as those from Bharut in the Indian Museum, Calcutta; Mathura in the Lucknow Museum; the British Museum's Late Andra Amaravati; and the Victoria and Albert's Gandhara sculptures. Many of these are often seen, but a few lesser known works of considerable merit were included, such as the ascetic's head in the Gordon Collection, England, and the standing bronze Buddha of the Birmingham Museum.

In the historical background the author explains the lack of accurate dates and points of disagreement. He intends to straddle the fence, but the position is rarely sufficiently comfortable to maintain. Despite his statement (page 1) that "... this Indo-Sumerian art does not seem to have any links with that of the later period of the so-called Vedic time," one of the interesting features of the conservative arts of India is the continuity of such motives as the mother goddess, the multi-armed figure, the sacred animal, and the anatomical structure of the human image from prehistoric times into historic times. They are at least revivals, if they did not exist in some way during the intervening centuries. Mr. KAR places his faith in local craftsmen, rarely misses an opportunity to point out West Asian influences, and in connection with Gandhara art says, "It is impossible to classify the periods of progress and decline of this school, since few sculptures bear any helpful inscriptions or a marked difference in style" (page 17). Convincing attempts on this subject have been made. In true Indian scholarly tradition the effects of this school on subsequent art in India are minimized.

The general iconographical information so essential for the understanding of Indian art is clear and concise. The Descriptive Notes accompanying the

plates explain the subject matter adequately in most cases; occasionally they are tantalizingly brief. Short descriptions of the sculptures are not always well expressed, as the listless stucco head (62) in the Victoria and Albert Museum is called "an excellent example of vivacious youth."

The spirit of Buddhism is responsible for the development and formation of Indian sculpture between 300 B.C. and 500 A.D., the period covered by this book; it is regretted that the title is *Classical Indian Sculpture*. This term is explained, but many styles occur in the evolution of sculpture during these centuries (including the classical Gandhara); some flourish simultaneously. Within these styles works of varying degrees of quality are described in such incompatible terms as "archaic," "decadent," "Graeco-Roman," "idealized," "Hellenistic," and "classical." This academic and ambiguous word need not be used to confuse Indian art also.

J. EDWARD KIDDER, JR.

Washington University

Excavations at Olynthus, Part XIII. Vases found in 1934 and 1938, by DAVID M. ROBINSON. xix, 463 pages, frontispiece, 267 plates. The Johns Hopkins Press, Baltimore 1950 (The Johns Hopkins University Studies in Archaeology, No. 38) \$25.00

This thirteenth volume of the great series on Olynthus, ROBINSON speaks of as a supplement to Part V in which were published the vases found in the first two campaigns. It is rather difficult to think of so large and important a volume as being a supplement to anything, but one may say that Parts V and XIII together give a most impressive account of the vases from Olynthus. In the present volume, of course, ROBINSON is able to refer back to the early seasons and so present his conclusions for the vases as a whole as well as the new material. The evidence certainly becomes stronger that the mass of material from Olynthus belongs to the period before 350 B.C. The vases belong to definite contemporaneous groups and with the new material it is very difficult indeed not to believe that fluted vases, vases with molded reliefs, and fish plates were not only known but com-

monly employed long before 350 B.C., the fish plates according to ROBINSON going back to 500 B.C.

Except for a brief introduction reviewing the work at Olynthus, the volume is given over entirely to a catalogue description, and illustrations of the vases. There is always a question in the publication of excavations as to how much material should be included in the description of objects and how many illustrations of fairly well known types of finds should be presented. The volumes on Olynthus have been lavish and the present one is no exception. This necessarily increases the price of the book. On the other hand, with the publication of tremendous numbers of vessels of common ware, ROBINSON is able to trace for the first time the changes in shape in the first half of the fourth century.

Special mention might be made among the rich red-figured vases of the three Olynthian red-figured painters to whom ROBINSON ascribes some new finds; of the fine lebes gamikos described on pages 107-109; and of the red-figured lid of a lecanis described on pages 119-121. The lebes gamikos was published in *Olynthus* VIII, page 95, but at that time was incorrectly restored with the base above. On the lid of the lecanis are representations of an oriental head, leopards and eagle griffins. ROBINSON takes the occasion to summarize the development of griffins in Mediterranean art. He concludes that vases with griffin scenes were exported from Athens to widely scattered regions.

I cite the griffin more as an example of ROBINSON's method than for his conclusion. With a command of bibliography rarely excelled, ROBINSON introduces a tremendous amount of comparative material. One may add that he publishes with most commendatory speed. The combination of the two increases enormously the value of the amazing finds of Olynthus. The speed of publication and the breadth of the field necessarily mean that not all phases are equally investigated since the author naturally stresses what especially interests him. Probably some of his conclusions will eventually have to be modified. I know the difficulty

(which the illustrations of the present volume exemplify) of remembering to put measuring scales in all photos of pottery. Meanwhile we may well express to Professor ROBINSON appreciation of his immense labors and congratulations for the richness and importance of the ceramic finds from Olynthus, published in spite of the interruption of the war and the consequent difficulty of studying his material.

CLARK HOPKINS
University of Michigan

The Ancient World, by JOSEPH WARD SWAIN. 2 vols. xx, 578 and xiv, 658 pages, plates, maps. Harper and Brothers, New York 1950 \$4.00 per volume

The story of man's activities in the Mediterranean area perhaps forms one of the most interesting chapters of the history of mankind. It has been told often, but archaeological and other discoveries make imperative its periodical restatement. To Professor SWAIN we are indebted for an up-to-date, clear, and comprehensive discussion and evaluation of the story.

The Prehistoric era and the Empires and States of the Ancient Orient and Greece before 334 B.C. are covered in the first volume. The world empire of Alexander and the Romans after 334 B.C. to the sixth century of our era form the subject matter of the second volume.

The material is vast and varied, and only the great ability of the author and his intimate knowledge of the times and places have enabled him to write a clear, accurate, and at the same time colorful account that keeps the interest of the reader to the end. The author treats in a more general way the military, political, and constitutional events, but stresses the intellectual, social, economic, religious, and literary activities of the peoples. The discussion of the rise of Judaism and of Christianity, a discussion often omitted by historians, is of especial importance and merit. His account of the historic periods is accurate, modern, and well-balanced. Perhaps the chapter on the "Dawn of History"—on the Old and New Stone Ages—is the weakest, is marred by generalizations, by an effort to see definite races and movements of people in every phase of prehistoric art, and is based on information that has been modified by recent discovery. The text is made clear

and vivid by means of excellent illustrations (32 plates in the first volume and 29 in the second) and outline maps.

The volumes are a decided contribution to our knowledge of the ancient world and will prove of inestimable value to the scholar and to the layman.

G. E. M.

Les Origines de la Civilisation Polonaise. Prehistoire-Protohistoire, by JOZEF KOSTRZEWSKI. 261 illustrations. 671 pages. Presses universitaires de France, Paris 1949.

The monumental work, written by one of the most eminent Polish prehistorians, is a great achievement in post war conditions. The book was written during the German occupation in Poland at which time the author was living incognito in a village. Later, the book was translated into French by M. Bernard Hamel and published in France in 1949.

The book is significant for its wide scope including not only Polish prehistory but prehistoric research in general.

The author covers the region between the rivers Oder and Vistula (the Oder valley was the heart of the Polish state founded by Mescio I in the 10th century) and the time between the fifth and the eleventh century A.D., several centuries before and after the Polish state was founded. The main purpose of the book is to give a clear picture of the culture which existed during the time in which the Polish state appeared in European history. The author speaks about the material and spiritual culture, using not only the archeological finds, but the linguistic and ethnological records. Reviewing this book, we give credit to A. BRUCKNER and C. MOSZYNSKI, whose important linguistic and ethnological studies Professor KOSTRZEWSKI used in his research. The author is to be congratulated on his use of so many sources in compiling this book. In Poland, as in the other regions of eastern Europe, the primitive life of a farmer and the language have preserved valuable material for the reconstruction of ancient times.

The author is of the opinion that the territory of Poland was inhabited by the Slavs for more than 3,000 years. The "Lusatian" culture of the Bronze Age at the end of the second millennium B.C. is held by Polish prehistorians to be an original Slavic culture.

The Polish state was created in the tenth century from a tribe, called "Polanes." The name "Polanes" is derived from the word *pole* "field," which proves their agricultural character. Some earlier theories that the Polish state was created by the Goths or the Vikings in the tenth century is denied and held to be fantastic. There is no doubt about the local origin of the Polish state. The pure Slavic names and the distribution of the typical Slavic sites and fortified hills are the best proof for the local origin.

The neighbor nations of the early Polish state were the Czechs, Slovaks and Moravians to the south, Germans to the west, Prussians (Baltic Jatinges) to the north and Russians to the east. The cultural relations between the neighboring lands are easily traced by the borrowed words in their language. During the eighth to eleventh centuries inclusive, the Poles accepted some German vocabulary. With the introduction of Christianity at the end of the ninth century the ecclesiastical vocabulary was adopted from the southern neighbors. Some of these new words were later transmitted to the northern neighbors. Trade relations with the Arabs were known to exist in the tenth century. Jewish merchants also appeared in Poland at the end of the tenth century.

The basis of the reconstruction of the material culture was the excavations of the sites and fortified hills, known by the name "grody," of the seventh to tenth century, in Great Poland, Pomerania, Silesia and Dobrzyn. By means of the systematic investigation of sites and additional material from philological and ethnological studies, the author has been able to describe, even in some detail, economic life, crafts, etc. In the chapter on agriculture, for example, he reconstructs the history of corn, vegetables and fruits, stating their age or indicating the ways, through which they came from foreign countries. He also describes with precision all kinds of food and food production, implements, male and female clothing and hygienic conditions. Special attention was paid to 17 different crafts, including not only pottery, wood-, bone- and metal work, weaving and sewing, but even shoe-making, saddlery, goldsmithing and many others.

Describing the spiritual and social culture in the second and the third

parts of the book, the author uses mostly the linguistic, folklore and historic records. In spite of his confession that the reconstruction of spiritual culture is not as easy as the reconstruction of economic life, the attempt to give a complete picture of spiritual and social culture is a high contribution. The author depicts the formation of names, the character of ancient religion, cosmography and art. The chapter about the religion is divided into three parts: cult of the dead, the cult of nature and magic, without discussing the elements that connect them. The art objects are described in a similar way—by material: wood, bone, metal, etc.

The evidence dealing with religion allows us to imagine ancient Polish paganism as a religion of nature, where anthropomorphism did not play an important part. The author looks into two kinds of religious objects with reciprocal meaning: the objects, in which divinity is felt (sun, moon, fire, plants, birds, serpents) and also evil powers are felt such as the evil power of the dead and of winter. The struggle between these two powers should be called the "base of religion," but not "animism" as is affirmed in the book.

The ancient Poles lived in big patriarchal families and clans. The early records from the year 380 A.D. mention the Slavic name of the duke Boz. In the sixth and seventh century dukes are known in the neighboring southeastern Slavic countries. It is supposed, that the dynasty of Piasts, known at the dawn of the Polish state, had its origin before the ninth century. The ascent of nobility is proven in the beginning of historical times. Already in the twelfth century the farmers had become serfs, except for a few free ones.

The administration of the land was organized in the system of *grody*—fortified sites, which were the "capitals" of certain districts. Besides the villages, certain land units, called *opole*, were depending on the authority of the *grody*.

The book "Les Origines de la Civilisation Polonoise" successfully raises the heavy curtain hanging between historic and prehistoric times. It paints a clear picture and indicates that there existed no sharp break between the times reconstructed by written documents and by archaeological, ethnological, and linguistic means.

M. GIMBUTAS

Franciscan Awatovi. The Excavation and Conjectural Reconstruction of a 17th-Century Spanish Mission Establishment at a Hopi Indian Town in Northeastern Arizona, by ROSS GORDON MONTGOMERY, WATSON SMITH, and JOHN OTIS BREW. xxiv, 361 pages, 63 ills. Peabody Museum, Cambridge 1949 (Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, Vol. 36) \$8.35

This book is one of a series of reports giving the results of five years' field research and study by the Peabody Museum in the Jeddito River basin of Arizona. Among other sites Awatovi was chosen for digging because it had the longest record of occupation, and besides, possessed a Franciscan mission outpost, San Bernardo de Aguatubi, until the end of the seventeenth century. True, the mission, standing on the edge of a precipitous mesa, was "lonely, primitive, and poor," but the archaeologists found an extraordinarily large amount of interesting source materials in architecture, decoration, and history.

Specifically we have here "part of the story of seventeenth century Awatovi, the part played by the Franciscan Friars"—in four sections, each really a book in itself; Parts I and II, on the history and excavations, by BREW; Part III, an analytical restoration of the mission building, by MONTGOMERY; and Part IV, the mural decorations, by SMITH.

In the first section Mr. BREW introduces us to the peculiar problem which faced the anthropologists in the technical challenge "arising from the difference in culture" between Indian and Spanish ruins. When a wall of the mission church turned out to be more than 100 feet long, the full magnitude of the task was realized. It is to the anthropologists' credit that a specialist in two fields, "ecclesiastical architecture and Spanish-American history," was called in; he was ROSS MONTGOMERY, California architect; whereupon the "feeling of working completely in the dark disappeared."

Mr. BREW's archaeological findings confirmed "to a surprising degree" the meager Spanish documents available about Awatovi. In his text he sometimes reveals unfamiliarity with stock architectural terminology, such as the reference to the church as having had "two towers and basilica front."

A surprise find was a kiva or Indian ceremonial room embedded in perfect condition beneath the high altar, a clear case of "superposition." In those days the friars liked to symbolize the superiority of the new religion over the pagan by superposition. Also unexpected was the discovery of a complete monastic establishment; church, schoolhouse, offices, friary, cloister garth, service yard, and shops. Under excavation the place spread out like another Pompeii. At a distance was found a strange ruin, probably a barrack-stable, which never had been built, because the "Hopis were men of action and blocked construction."

There are many fine illustrations: maps, plans, details, reconstruction drawings, and photographs, which, taken all together, present a good idea of a remote Spanish outpost on the desert edge of the world. Much comparative material, such as KUBLER, the H.A.B.S. records, and Mexican and Spanish work, is inserted in the text at nearly every turn. For instance, sketches of the Awatovi great bell fragments have been drawn over a scale diagram of the bell at Acoma, to show that both bells had been "cast in the same mold." There is also a quantity of what seems irrelevant material, such as that about the Greenland glass. Mr. BREW's identification of the room against the north tower as "the parlor" makes no easier the solution of what was its real use.

MONTGOMERY'S Part III is distinguished by his superb conjectural reconstructions in ink, and by his attempt to picture in words the religious and economic life of an outpost like Awatovi. All the furniture and utensils of the baptistery, for instance, were destroyed long ago, yet he gives an itemized list of furnishings which the Fathers must have placed there.

The final outstanding find, described by WATSON SMITH in the last section, is the mural painting; and a page in color shows the reader how the geometrical patterns simulated tiles or iron-work.

In its numerous repetitions this volume suffers from having been written by different persons at different times. Even the drawings sometimes disagree, as in the proportions of the horse stalls in Figs. 3 and 49, and in the shape of a north tower wall in Figs. 4 and 39. And we find good Yankee slang, "Sure enough," enlivening a scientific report.

ARCHAEOLOGY

But these are minor points in a work of prodigious labor which almost doubles the field of knowledge of colonial archaeology in the Southwest.

HENRY CHANDLEE FORMAN

Agnes Scott College

Frederick Catherwood Archt., by VICTOR WOLFGANG VON HAGEN. xix, 177 pages, 25 plates, 16 illustrations. Oxford University Press, New York 1950 \$5.00

To one who knows FREDERICK CATHERWOOD only through his famous drawings of Maya ruins in Yucatan and Central America, it is almost unbelievable that only five years of a life packed with other adventures and achievements were devoted to this particular series of illustrations. Classical archaeologists and architectural students who are familiar with CATHERWOOD's scattered drawings of monuments and buildings in Italy, Greece, Egypt, and Jerusalem, may be equally surprised on reading VICTOR WOLFGANG VON HAGEN's absorbing biography of this remarkable person.

When CATHERWOOD was lost at sea

in the sinking of the *Arctic* in 1854, he was not quite fifty-four years old. He had been, at one time or another, a draftsman, architect, classicist, architectural explorer, panoramist, archaeologist, engineer, and railroad builder. He was a pioneer in Egyptology; he spent between seven and eight years in the Mediterranean and Near East, his most important work being his studies of the Dome of the Rock and the Mosque of El-'Aqsa in Jerusalem. He became famous as a panoramist of Leicester Square in London and Prince Street, New York, during the period when panoramas were at the height of their popularity. His Middle American drawings, executed during the expeditions with STEPHENS, made his name immortal in that field of study. He built the first railroad in South America; at the time of his death he had only recently plunged into the Benecia-Marysville railway venture in California.

VON HAGEN stresses the evil star that pursued CATHERWOOD throughout his life. Much of this can be attributed to bad luck, as when his magnificent collection of drawings and relics was destroyed by fire in 1842, but as one

reads this biography, one senses more and more the factors of CATHERWOOD's own inability to settle down, his "gnawing unrest and curiosity," and possibly some personality trouble, all of which must have contributed to the fact that the results of so much of his best work disappeared. CATHERWOOD wrote only twice for publication, and then with considerable insight.

VON HAGEN also stresses CATHERWOOD's anonymity. This is reflected in the great scarcity of letters or other documents that the biographer needs; during his life, however, CATHERWOOD seems to have been far from anonymous. He was a friend of many men who were then or later became famous, he was well known both as panoramist and architect, and the newspapers in New York seem to have printed many releases on his activities over a period of fifteen years, although they all but ignored his death. VON HAGEN's patience in tracing down every clue for this biography is comparable to CATHERWOOD's own dogged persistence in the field.

ROBERT WAUCHOPE

Tulane University

REVISED EDITION

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Edited by ROBERT F. HEIZER,
*Director, University of California
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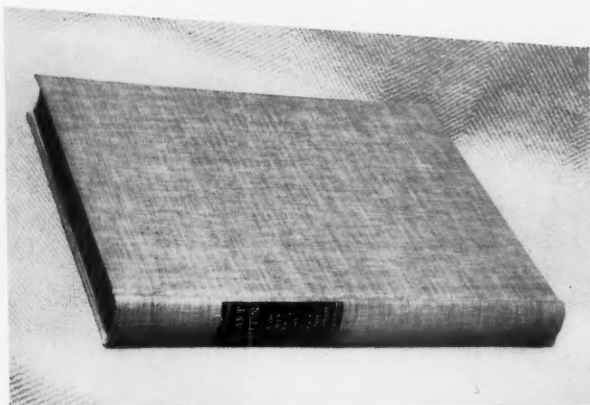
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